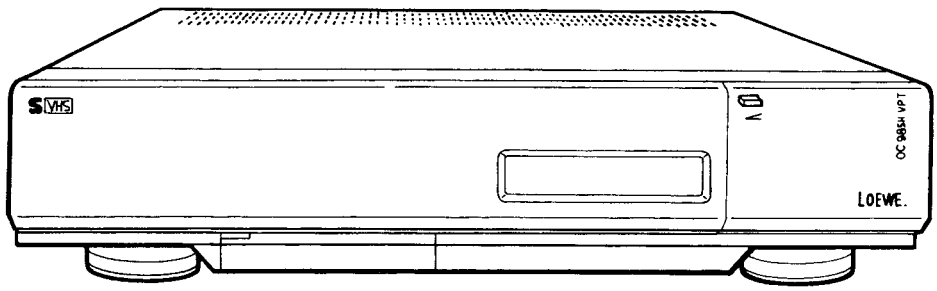
V06518

LOEWE.

Kundendienst-
Serviceanleitung



S VHS

PAL SECAM VPS VPT

VHS-Profi
OC 985 H
Videorecorder
Art.-Nr. 69555

Sicherheitsvorschriften
Bei Reparaturarbeiten an den Geräten sind die Sicherheitsbestimmungen gemäß VDE 0860 und Nachträgen zu beachten und einzuhalten.
Spezielle Bauteile in den Geräten dürfen aufgrund ihres Aufbaues nur durch Originalteile ersetzt werden.
Außerdem sind die am Reparaturort gültigen Schutzbestimmungen der Bundesgenossenschaft beim Umgang mit diesen Geräten einzuhalten. Hierzu gehört auch die Beschaffenheit des Arbeitsplatzes.
Die Kenntnis dieser Vorschriften ist die Voraussetzung, um einen fachgemäßen Service der Geräte durchführen zu können.
Bei Betrieb dieser Geräte im Ausland sind die jeweiligen Schutzbestimmungen des Landes zu berücksichtigen und einzuhalten.

SAFETY PRECAUTIONS
The following precautions should be observed when servicing.
1. Since many parts in the unit have special safety-related characteristics, always use genuine LOEWE replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes.
   Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that is completely safe to operate without danger of electrical shock.

Norme di sicurezza
Effettuando dei lavori di riparazione sugli apparecchi bisogna osservare e rispettare le disposizioni di sicurezza a norma VDE 0860 e appendici.
Componenti speciali negli apparecchi vanno sostituiti, causa la loro composizione, solo con ricambi originali. Vanno inoltre rispettate le disposizioni di sicurezza dell'ente di assicurazione contro gli infortuni sul lavoro in vigore nel luogo di riparazione. Ciò vale anche per le condizioni del posto di lavoro. La cognizione di tali norme costituisce la premessa per poter effettuare un'assistenza tecnica a regola d'arte.
Impiegando gli apparecchi all'estero occorre rispettare ed attenersi alle norme di sicurezza del rispettivo paese.

230-90204.990

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*50 705990 # (ET-Best.)

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   5) Schrägfehlerdetektor
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DEMONTAGE

1. IDENTIFIZIERUNG UND LAGE DER LEITERPLATTEN

DISASSEMBLY

1. IDENTIFICATIONS AND LOCATIONS OF CIRCUIT BOARDS

SMONTAGGIO

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① Pre Amp P.C.B
Scheda preamplificatore

② SWR Control P.C.B
Piastra comando SWR

③ Power Supply P.C.B
Piastra alimentatore

④ Regulator P.C.B
Scheda stabilizzatore

⑤ Main P.C.B
Scheda principale

⑥ Wiring P.C.B
Piastra cablaggi

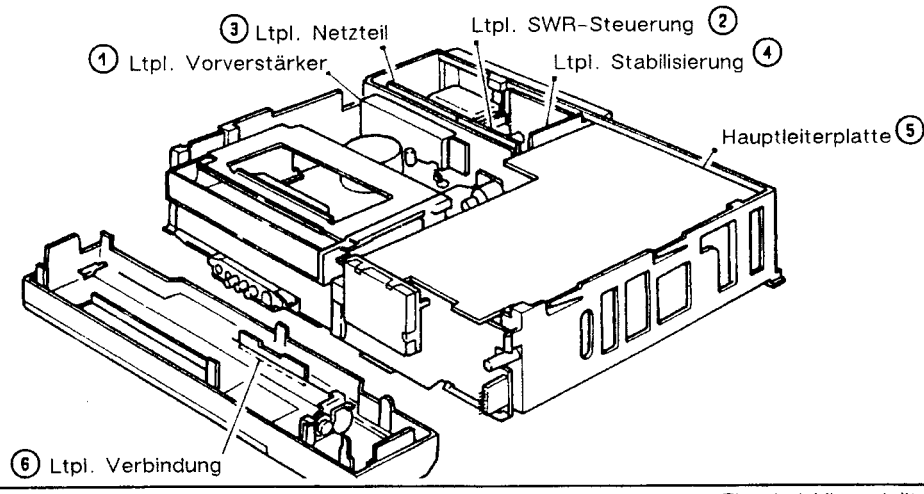

Bild 1-1 Sicht von oben (I) | Fig. 1-1 Top View (I) | Fig. 1-1 Vista dall'alto (I)

① Y/Chroma Interface P.C.B
Scheda Y/Chroma Interface

② Y/Chroma P.C.B
Scheda Y/Croma

③ OSD P.C.B
Scheda OSD

④ RF Converter
Modulatore

⑤ Tuner Unit
Unita' Tuner

⑥ IF Unit
Unita' MF

⑦ Jack P.C.B (Canal Plus)
Scheda prese (Canal Plus)

⑧ Audio P.C.B
Scheda Audio

⑨ Function SW P.C.B
Scheda Comando

⑩ Timer P.C.B
Scheda Timer

⑪ A2 P.C.B
Scheda A2 (Stereo)

⑫ VPT P.C.B
Scheda VPT

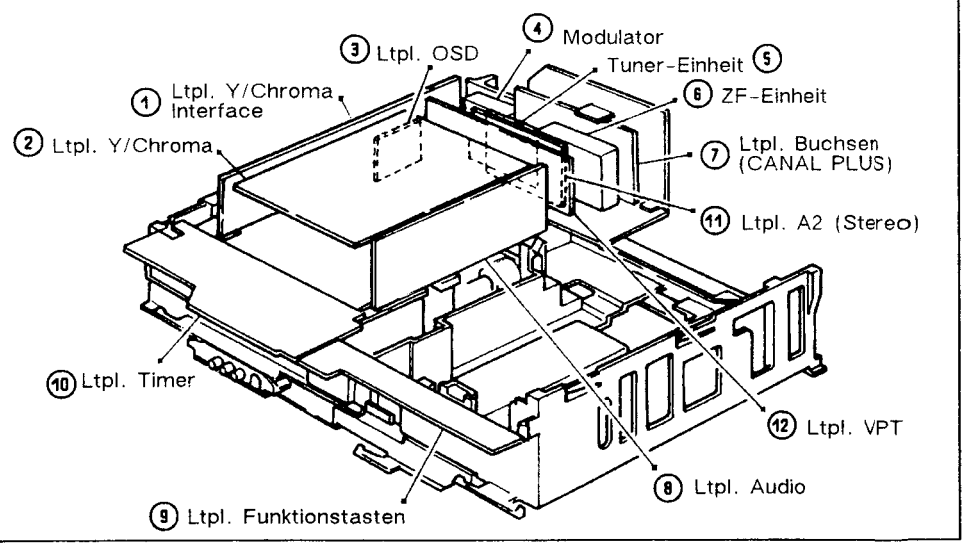

Bild 1-2 Sicht von oben (II) | Fig.1-2 Top View (II) | Fig. 1-2 Vista dall'alto (II)

① Timer P.C.B
Scheda Timer

② Function SW P.C.B
Scheda Comando

③ Capstan Motor P.C.B
Scheda motore Capstan

④ Sensor P.C.B
Scheda sensori

⑤ Front Jack P.C.B
Piastra prese frontali

⑥ Y/C Separate P.C.B
Scheda Y/C Separate

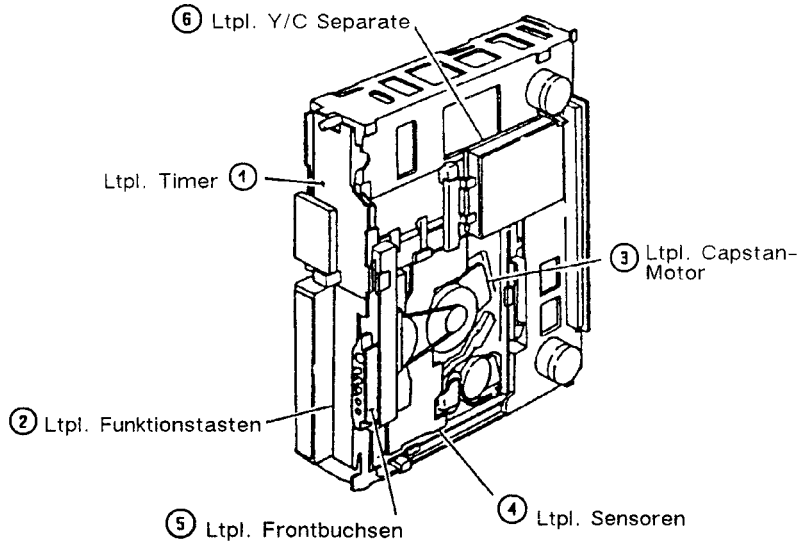

Bild 1-3 Sicht von unten | Fig. 1-3 Bottom View | Fig. 1-3 Vista dal basso

2. IDENTIFIZIERUNG UND LAGE DER MECHANISCHEN HAUPTKOMPONENTEN

2. IDENTIFICATIONS AND LOCATIONS OF MAIN MECHANICAL COMPONENTS

2. IDENTIFICAZIONE E POSIZIONE DEI COMPONENTI MECCANICI PRINCIPALI

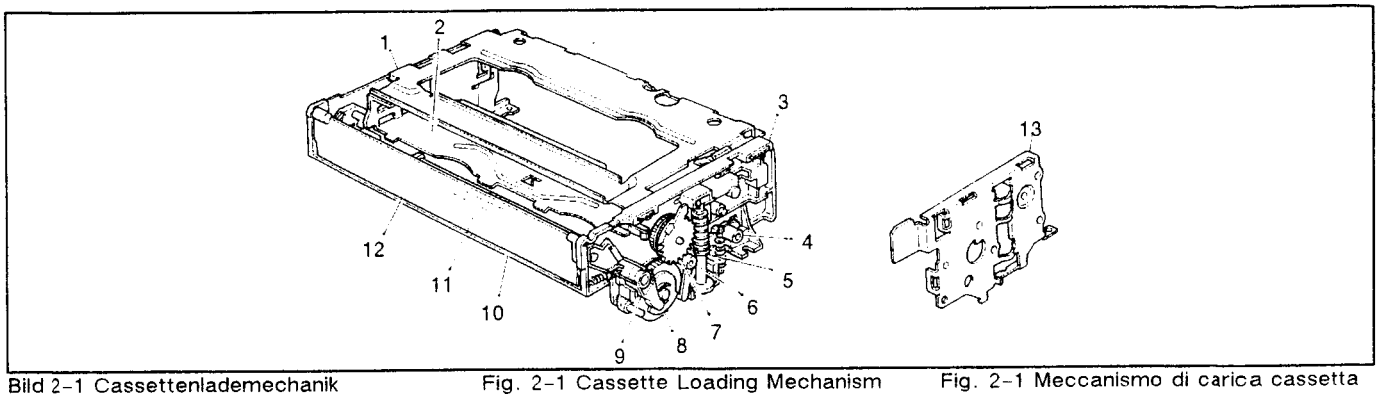

Bild 2-1 Cassettenlademechanik

1. Chassishalterung
2. Cassettenlift
3. Getriebeträger
4. Schalthebel B
5. FL-Schneckenwelle
6. Schalthebel A
7. Schneckenrad
8. Antriebszahnrad
9. Klappenhebel
10. Fronthalterung
11. Achse
12. Cassettenschachtklappe
13. Seitenchassis

Fig. 2-1 Cassette Loading Mechanism

1. Chassis Holder
2. Cassette Holder
3. Gear Bracket
4. Switch Lever B
5. FL Worm Gear
6. Switch Lever A
7. Worm Wheel
8. Drive Gear
9. Door Arm
10. Front Holder
11. Shaft Pin
12. Cassette Door
13. Side Chassis

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1. Supporto chassis
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4. Leva di commutazione (B)
5. Albero filettato FL
6. Leva di commutazione (A)
7. Ingranaggio elicoidale
8. Ruota dentata motrice
9. Levetta del portello cassetta
10. Supporto frontale
11. Asse
12. Portello inserimento cassetta
13. Telaio laterale

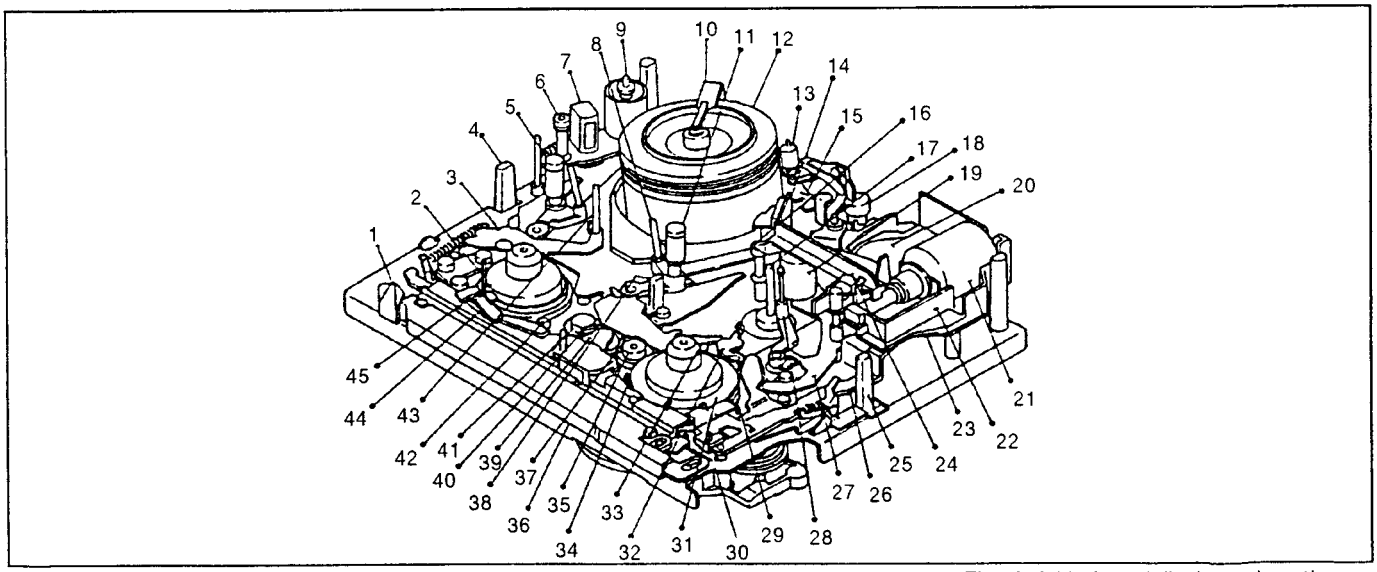

Bild 2-2 Laufwerkoberseite

Fig. 2-2 Top View of Mechanism

Fig. 2-2 Veduta dall'alto del ruotismo

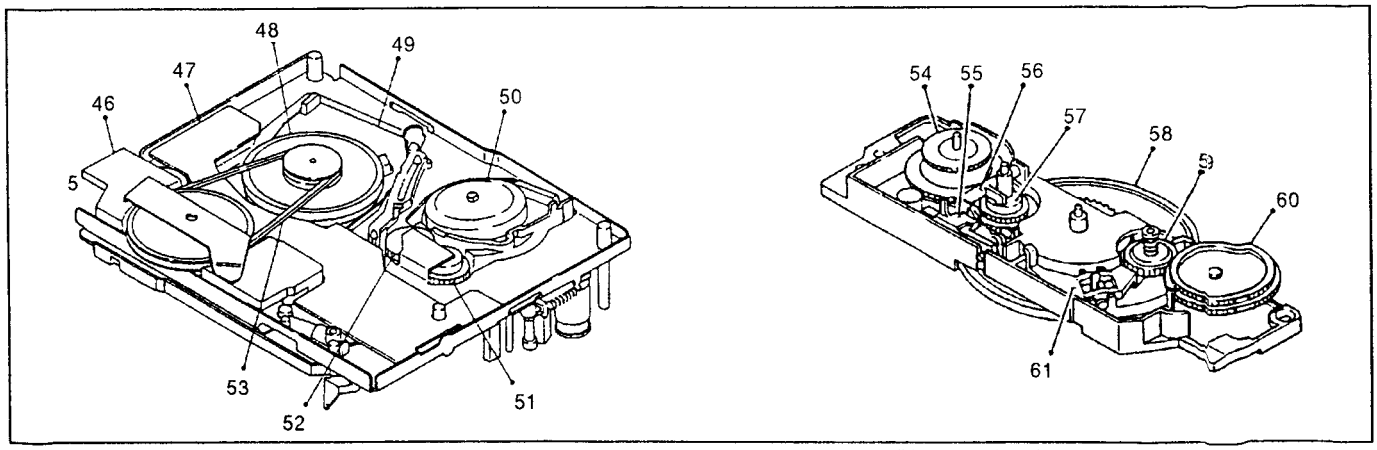

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Bild 2-4 Kupplungsträger
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3. Bandzughebel
4. Vorratsteller-Sensor
5. Bandführungsrolle, abwickelseitig
6. Bandführungsstift, abwickelseitig
7. Vollspurlöschkopf
8. Neigungsführungen
9. Impedanzrolle
10. Massebürste
11. Bandführungsrolle,aufwickelseitig
12. Kopftrommel
13. Kopfreinigungshebel, komplett
14. A/C-Kopf
15. Kopftrommel-Grundplatte
16. Bandführungsstift, aufwickelseitig
17. Capstan
18. Kopfreinigungshalterung, komplett
19. Andruckrolle, komplett
20. Laufwerk-Statusschalter
21. Einfädelmotor, komplett
22. Fädelmotorhalterung
23. Fädelmotorträger, komplett
24. Cassettenverschluß-Öffner
25. Aufwickelteller-Sensor
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27. Andruckrollen-Betätigungshebel
28. Umlenkstift
29. Aufwickeltellerhilfsbremse
30. S-VHS Schalter
31. Aufwickelteller
32. Rückwärtszeitlupenbremse
33. Zeitlupenbremse
34. Aufwickelteller-Hauptbremse
35. Aufwickelhilfszahnrad
36. Gleitblock
37. Aufwickelseitige Zahnradbremse
38. Bandende-LED
39. Teller-Antriebszwischenrad
40. Abwickelseitige Zahnradbremse
41. Abwickelhilfszahnrad
42. Vorratstellerhauptbremse
43. Bandzug-Fühlstift
44. Abwickelhilfsbremse
45. Vorratsteller
46. Kupplungsträger
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48. Capstan-Motor
49. Capstanmotor-Leiterplatte
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52. Einfädelzahnrad, aufwickelseitig
53. Wickeltellerriemen
54. Aufwickelzahnrad
55. Kupplungshebel
56. Schalthebel
57. Schaltzahnrad
58. Aufwickelriemenscheibe
59. FL-Schaltzahnrad
60. FL-Schalthebel
61. Zwischenzahnrad

1. Safety Arm
2. Tension Band
3. Tension Arm
4. Supply Reel Sensor
5. Supply Guide Roller
6. Supply Guide Pole
7. Full Erase Head
8. Inclined Guides
9. Impedance Roller
10. Static Discharge Brush
11. Take-up Guide Roller
12. Cylinder
13. Head Cleaning Arm Ass'y
14. A/C Head
15. Cylinder Base
16. Take-up Guide Pole
17. Capstan Shaft
18. Head Cleaning Bracket Ass'y
19. Pressure Roller Ass'y
20. Mechanism State Switch
21. Loading Motor Ass'y
22. Loading Motor Holder
23. Load Bracket Ass'y
24. Cassette Lid Opener
25. Take-up Reel Sensor
26. Brake Link Arm
27. Pressure Roller Operation Arm
28. Drawer Pin
29. Take-up Sub Brake
30. S-VHS SW
31. Take-up Reel Disk
32. Reverse Slow Brake
33. Slow Brake
34. Take-up Main Brake
35. Take-up Sub Gear
36. Slider Block Ass'y
37. Take-up Gear Brake
38. End Lamp
39. Reel Drive Idler
40. Supply Gear Brake
41. Supply Sub Gear
42. Supply Main Brake
43. Tension Pole
44. Supply Sub Brake
45. Supply Reel Disk
46. Clutch Gear Ass'y
47. Sensor P.C.B
48. Capstan Motor
49. Capstan Motor P.C.B
50. Cylinder Motor Ass'y
51. Supply Loading Gear
52. Take-up Loading Gear
53. Reel Belt
54. Take-up Gear
55. Clutch Arm
56. Change Arm
57. Change Gear
58. Take-up Pulley
59. FL Change Gear
60. FL Change Arm
61. Relay Gear

1. Leva di sicurezza
2. Sistema frenante completo
3. Leva tensionamento nastro
4. Sensore quantita' nastro
5. Rullo guida nastro, lato svolgimento
6. Perno guida nastro, lato svolgimento
7. Testina di cancellazione traccia intera
8. Guide clinometriche (angolazione)
9. Rullo di impedenza
10. Spazzola di massa
11. Rullo guida nastro, lato avvolgimento
12. Tamburo portatestine
13. Leva di pulizia testina, completa
14. Testina di audio/comando
15. Piastra base tamburo portatestine
16. Perno guida nastro, lato avvolgimento
17. Mulinello (Capstan)
18. Supporto di pulizia testina, completo
19. Rullo pressore, completo
20. Interruttore stato unita' di trasporto
21. Motore inserimento nastro, completo
22. Fissaggio motore inserimento nastro
23. Supporto motore inserimento nastro
24. Apriportello cassetta
25. Sensore lato avvolgimento
26. Leva tiranteria freno
27. Leva comando rulli di pressione
28. Perno di rinvio
29. Freno ausiliario piatto di avvolgimento
30. Selettore S-VHS
31. Piatto avvolgimento nastro
32. Freno rallentatore marcia indietro
33. Freno rallentatore
34. Freno principale disco di avvolgimento
35. Ingranaggio ausiliario avvolgimento
36. Blocco di scorrimento
37. Freno ingranaggio lato avvolgimento
38. LED fine nastro
39. Ruota intermedia azionamento disco
40. Freno ingranaggio lato svolgimento
41. Ingranaggio ausiliario svolgimento
42. Freno principale, lato svolgimento
43. Spina sensore trazione nastro
44. Freno ausiliario svolgimento
45. Piatto di svolgimento
46. Supporto frizione
47. Scheda sensore
48. Motore mulinello (Capstan)
49. Scheda motore mulinello (Capstan)
50. Complesso motore del cilindro
51. Ingranaggio inserimento nastro, lato svolgimento
52. Ingranaggio inserimento nastro, lato avvolgimento
53. Cinghia per disco nastro
54. Ingranaggio di avvolgimento
55. Leva comando giunto di trasmissione
56. Leva di commutazione
57. Ingranaggio di commutazione
58. Puleggia di avvolgimento
59. Leva di comando FL
60. Ingranaggio di comando FL
61. Ingranaggio intermedio

3. GEHÄUSE-DEMONTAGE

1. Gehäuseoberteil
2. Bodenabdeckung
3. Frontblende
4. Bedienteil und Abdeckung
5. Rückwand

Die Zahlen in den Zeichnungen zeigen die Ausbaureihenfolge.

1. Gehäuseoberteil

1) Die 5 Schrauben entfernen. Hintere Seite des Gehäuseoberteils anheben. Gehäuseoberteil nach hinten abziehen.

2. Bodenabdeckung

2) Die 7 Befestigungsschrauben der Bodenabdeckung entfernen.
3) Zwei Schrauben entfernen: die Gehäusefüße in Pfeilrichtung entfernen.

3. CASE REMOVAL

1. Top Cover
2. Bottom Cover
3. Front Panel
4. Front Door and Front Metal Panel
5. Rear Panel

The numbers of the illustrations show the order of removal.

1. Top Cover

1) Remove 5 screws. Lift up the rear of the top cover and slide the entire cover backwards.

2. Bottom Cover

2) Remove 7 screws holding the bottom cover.
3) Remove 2 screws. Remove the cabinet feet in the direction of the arrows.

3. SMONTAGGIO DELLA CUSTODIA

1. Pannello superiore custodia
2. Coperchio del fondo
3. Pannello frontale
4. Comando e coperchio
5. Pannello posteriore

I numeri sui disegni indicano la sequenza di smontaggio.

1. Pannello superiore custodia

1) Allentare le 5 viti. Sollevare il lato posteriore del pannello superiore custodia ed estrarre questo verso il retro.

2. Coperchio di fondo

2) Allentare le 7 viti di fissaggio e il coperchio di fondo.
3) Togliere due viti e i piedini in direzione della freccia.

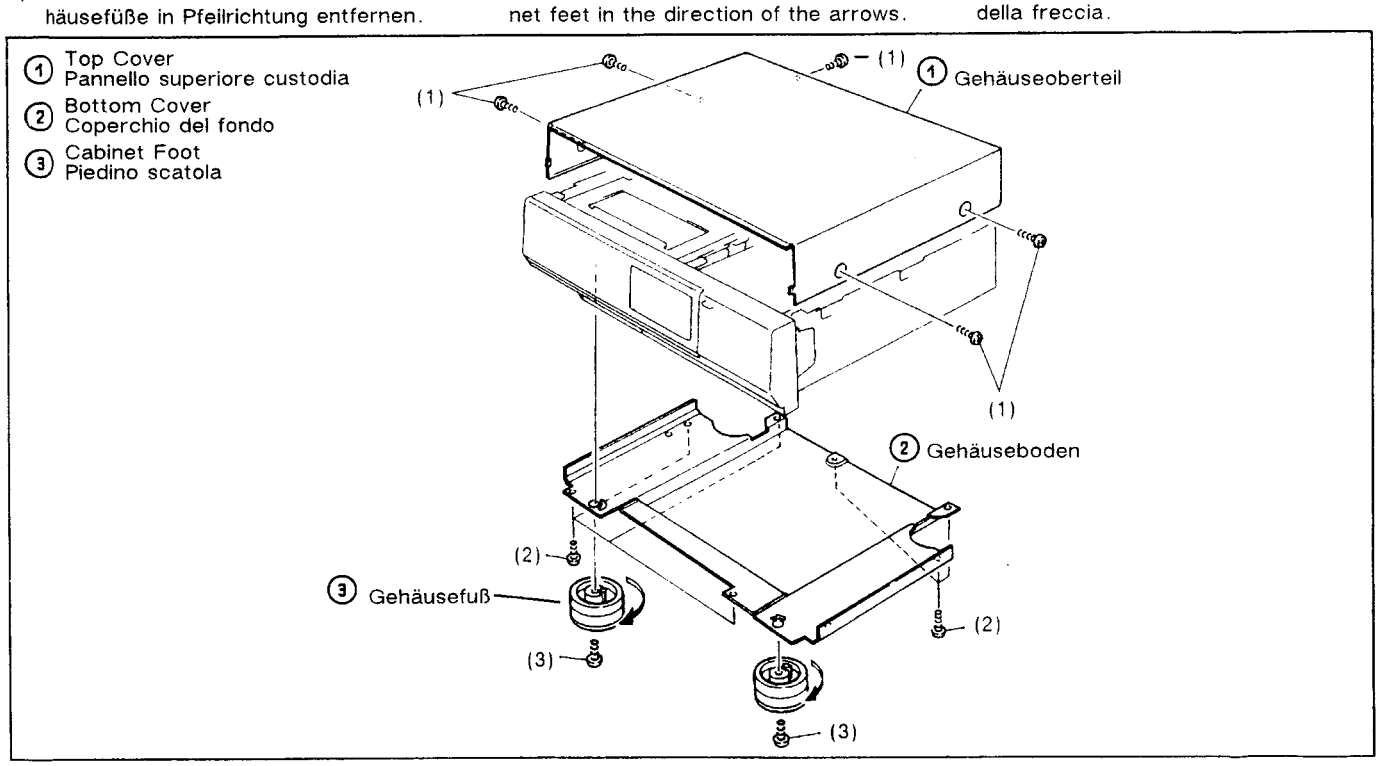


Bild 3-1 Gehäuseoberteil. Gehäuseboden

Fig. 3-1 Top Cover. Bottom Cover

Fig. 3-1 Pannello superiore della custodia coperchio del fondo

3. Frontblende

1) Zwei Schrauben entfernen und 6 Laschen lösen.

Hinweis:
Zuvor zu entfernende Komponenten:
* Gehäuseoberteil. Bodenabdeckung

3. Front Panel

1) Remove 2 screws and release 6 tabs.

Note:
Components to remove previously.
* Top and bottom covers

3. Pannello frontale

1) Allentare le 2 viti e staccare le 6 linguette.

Nota:
Componenti da togliere prima:
* Pannello superiore custodia. coperchio del fondo.

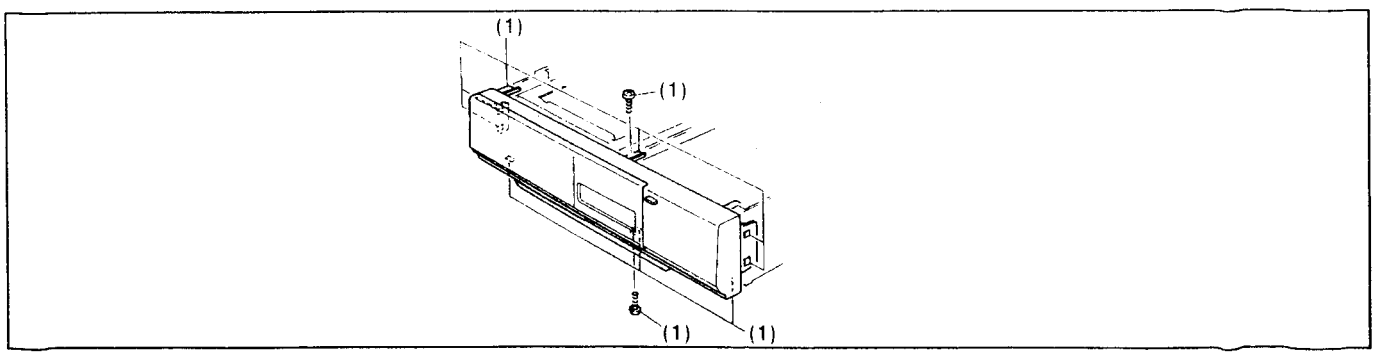


Bild 3-2 Frontblende

Fig. 3-2 Front Panel

Fig. 3-2 Pannello frontale

4. Bedienteil und Abdeckung

Hinweis:
Zuvor zu entfernende Komponenten:
* Gehäuseoberteil. Bodenabdeckung
1) Steckverbindung lösen.
2) Zwei Schrauben und eine Schraube entfernen.
3) Drei Schrauben entfernen.

4. Front Door and Front Metal Panel

Note:
Components to remove previously.
* Top and bottom covers
1) Disconnect the connector.
2) Remove 2 screws and remove one screw.
3) Remove 3 screws.

4. Comando e coperchio

Nota:
Componenti da togliere prima:
* Parte superiore della scatola. coperchio del fondo.
1) Staccare il connettore.
2) Togliere due viti e una vite.
3) Allentare 3 viti.

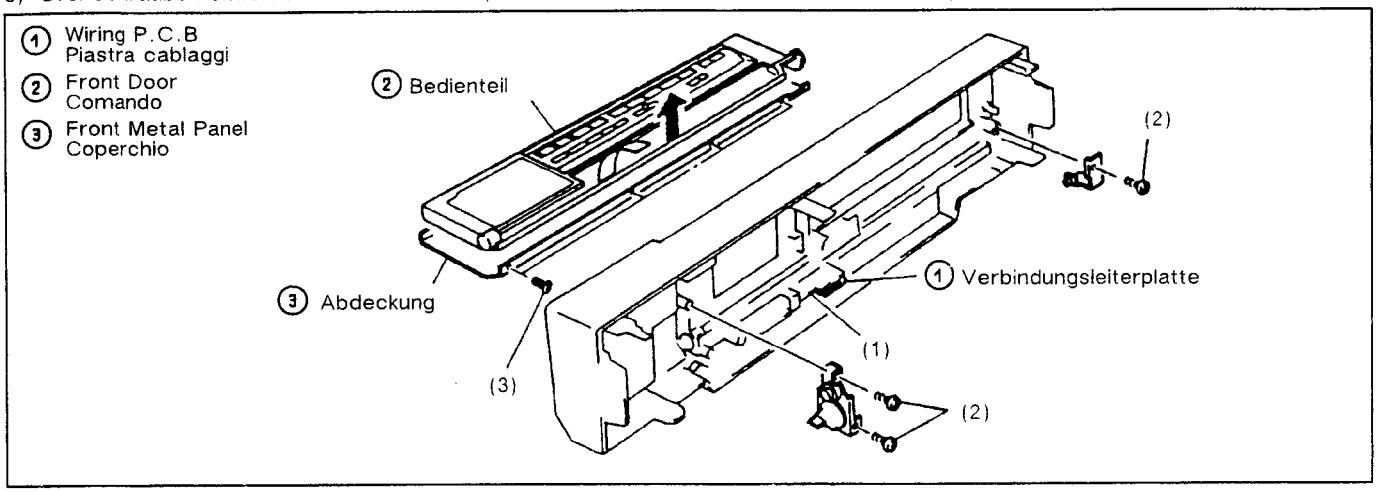


Bild 3-3 Bedienteil | Fig. 3-3 Front Door | Fig. 3-3 Comando

5. Rückwand

Hinweis:
Zuvor zu entfernende Komponenten:
* Gehäuseoberteil. Bodenabdeckung
* Frontblende
* Timer-. Funktionstasten- und Hauptleiterplatte
1) Die Niete entfernen.
2) Vier Schrauben und zwei Schrauben entfernen.

5. Rear Panel

Note:
Components to remove previously.
* Top and bottom covers
* Front panel
* Timer. Function SW and Main P.C.B
1) Remove the rivet.
2) Remove 4 screws and remove two screws.

5. Pannello posteriore

Indicazioni sui componenti da togliere per primi:
* Parte superiore della scatola. coperchio del fondo.
* Pannello frontale.
* Piastra principale. del timer e dei tasti funzionali.
1) Togliere il rivetto.
2) Togliere 4 e 2 vite.

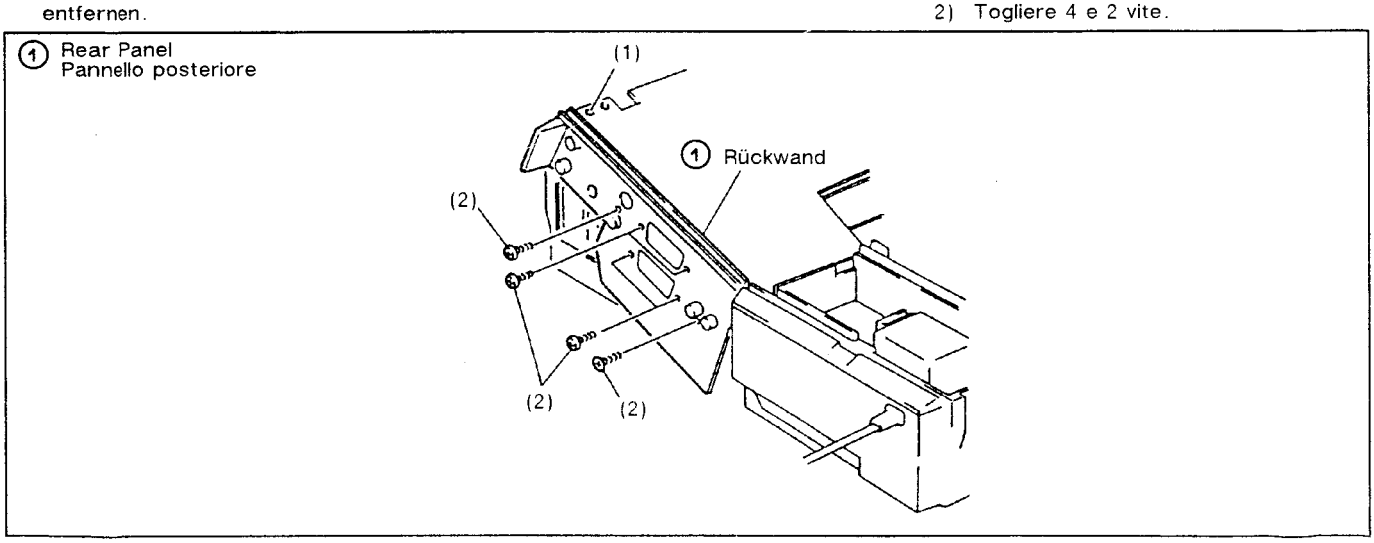


Bild 3-4 Rückwand | Fig. 3-4 Rear panel | Fig. 3-4 Pannello posteriore

4. LEITERPLATTENDEMONTAGE

1. Verbindungsleiterplatte
2. Ltpl. Timer und Funktionstasten
3. Hauptleiterplatte
4. Ltpl. Y/Chroma
5. Ltpl. Y/C Interface
8. Ltpl. Buchsen
6. Ltpl. A2 (Stereo)
7. Ltpl. VPT
9. Ltpl. Netzteilblock
10. Ltpl. Frontbuchsen & Halter
11. Ltpl. Sensoren
12. Ltpl. Vorverstärker/Kopfumschaltung
13. Ltpl. Y/C Separate

Hinweis: Vor dem Ausbau der Leiterplatten das Gehäuseoberteil, Bodenabdeckung und Frontblende entfernen.

1. Verbindungsleiterplatte

1) Zum Abziehen der Steckverbindung den Klemmbügel nach oben ziehen.
2) Steckverbindung lösen.

4. CIRCUIT BOARD REMOVAL

1. Wiring P.C.B
2. Timer & Function SW P.C.B
3. Main P.C.B
4. Y/Chroma P.C.B
5. Y/C Interface P.C.B
6. A2 (Stereo) P.C.B
7. VPT P.C.B
8. Jack P.C.B
9. Power Supply Block
10. Front Jack P.C.B & Holder
11. Sensor P.C.B
12. PreAmp/Head SW P.C.B
13. Y/C Separate P.C.B

Note: Remove the top, bottom covers and front panel before removing the circuit boards.

1. Wiring P.C.B

1) Pull up the binding ring to disconnect the connector.
2) Disconnect the connector.

4. SMONTAGGIO PIASTRE

1. Piastra cablaggi
2. Piastre Timer e tasti funzionali
3. Scheda principale
4. Scheda Y/Chroma
5. Scheda Y/C Interface
6. Scheda A2 (Stereo)
7. Scheda VPT
8. Scheda prese
9. Piastra blocco alimentatore
10. Piastra prese frontali e supporto
11. Scheda sensori
12. Scheda preamplificatore
13. Scheda Y/C Separate

Nota: Prima di smontare i circuiti stampati togliere la parte superiore della carrozzeria, la copertura del fondo e la guarnizione frontale.

1. Piastra cablaggi

1) Tirare verso l'alto la staffa di ritegno. per estrarre il connettore.
2) Staccare il collegamento.

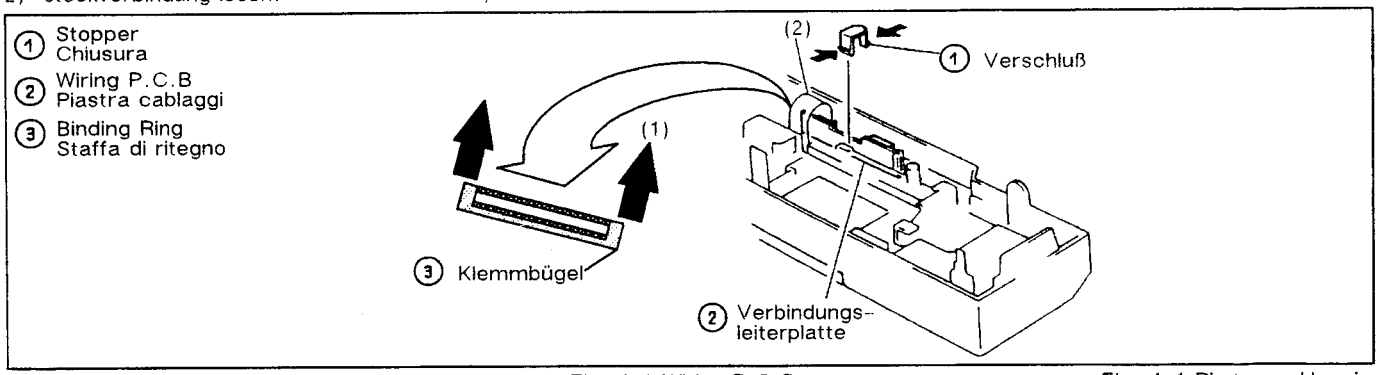


Bild 4-1 Verbindungsleiterplatte

Fig. 4-1 Wiring P.C.B

Fig. 4-1 Piastra cablaggi

2. Leiterplatten Timer und Funktionstasten

1) Sechs Laschen lösen.
2) Drei Laschen lösen.
3) Den/die Stecker lösen.
4) Die Laschen des Display-Halters aus der Leiterplatte lösen.

* Lösen der Steckverbindungen zwischen den Leiterplatten:

a. Timer-/Funktionstastenleiterplatten
Die Leiterplatten in Horizontalposition versetzen, dann die Funktionstastenleiterplatte in Pfeilrichtung (A) abziehen.

b. Timer-/Hauptleiterplatte
Die Leiterplatte in Horizontalposition versetzen, dann die Timer-Leiterplatte in Pfeilrichtung (B) abziehen.

2. Timer P.C.B & Function SW P.C.B

1) Release 4 tabs.
2) Release 3 tabs.
3) Disconnect the connector/s.
4) Release the tabs of the display holder from the circuit board.

* How to disconnect connectors between circuit boards.

a. Timer and Function SW P.C.B
Set the circuit boards in the horizontal positions and pull out the function SW circuit board in the direction of the arrow (A).

b. Timer and Main P.C.B
Set the circuit board in the horizontal position and pull out the timer circuit board in the direction of the arrow(B).

2. Piastre Timer/tasti funzionali

1) Allentare 4 linguette.
2) Allentare 3 linguette.
3) Staccare il/i connettore/i.
4) Staccare le staffe del supporto display sulla piastra.

* Staccare i connettori fra le piastre.

a. Piastre Timer/tasti funzionali:
Mettere in posizione orizzontale le piastre ed estrarre la piastra dei tasti funzionali nel senso della freccia (A).

b. Piastra principale/Timer
Mettere in posizione orizzontale la piastra ed estrarre la piastra del Timer nel senso della freccia (B).

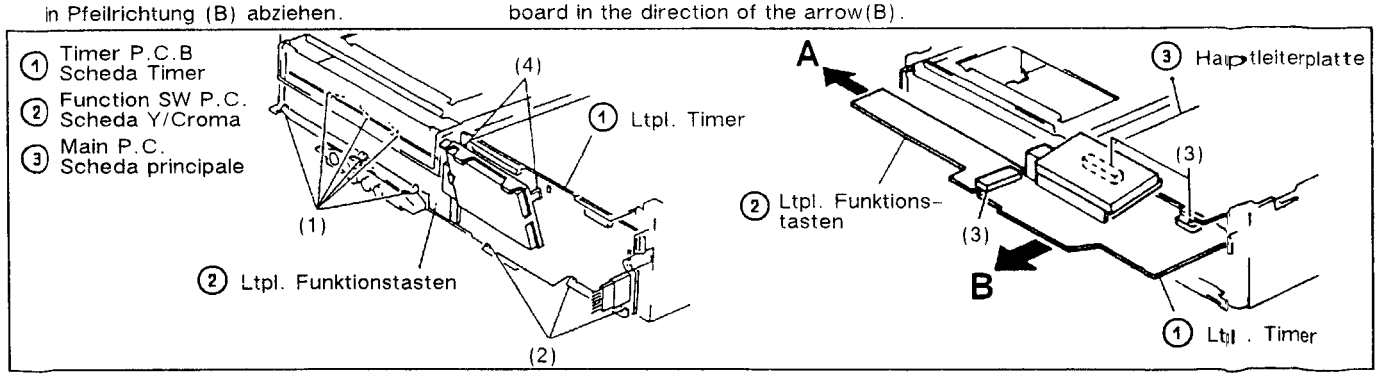


Bild 4-2/3 Timer-/Funktionstasten-Ltpl.

Fig. 4-2/3 Timer & Function SW P.C.B

Fig. 4-2/3 Scheda Timer e Comando

3. Hauptleiterplatte

1) Die 3 Schrauben entfernen.
2) Drei Laschen lösen.

3. Main P.C.B

1) Remove 3 screws.
2) Release 3 tabs.

3. Scheda principale

1) Togliere 3 viti.
2) Allentare 3 linguette.

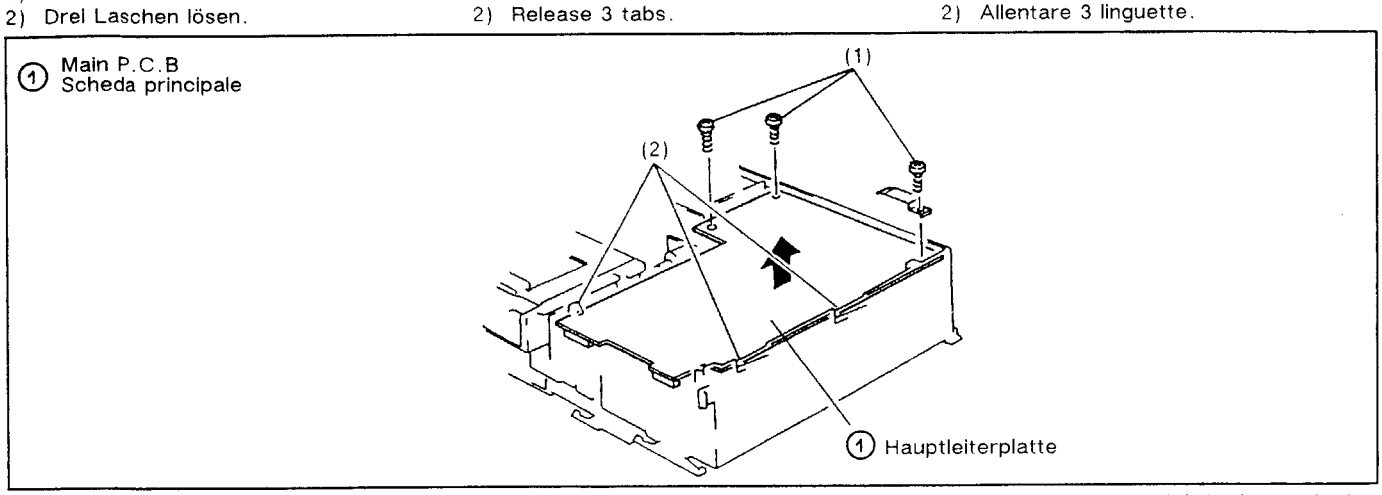


Bild 4-4 Hauptleiterplatte

Fig. 4-4 Main P.C.B

Fig. 4-4 Scheda principale

4. Leiterplatte Y/Chroma

1) Die Leiterplatte aufklappen.
2) Die 2 Stecker abziehen.
3) Die Leiterplatte abziehen.

4. Y/Chroma P.C.B

1) Open the circuit board.
2) Disconnect 2 connectors.
3) Disconnect the circuit board.

4. Scheda Y/Croma

1) Ribaltare la piastra.
2) Staccare i 2 collegamenti.
3) Estrarre la piastra.

5. Leiterplatte Y/C Interface

4) Die Leiterplatte mit den 6 Steckern abziehen.

5. Y/C Interface P.C.B

4) Disconnect the circuit board with the 6 connectors.

5. Scheda Y/C Interface

4) Estrarre la piastra con i sei connettori.

6. Leiterplatte A2 -Stereo (IC1801)

5) Die Leiterplatte mit den 2 Steckern abziehen.

6. A2 (Stereo) P.C.B (IC1801)

5) Disconnect the circuit board with the 2 connectors.

6. Scheda A2 (Stereo)

5) Estrarre la piastra con i due connettori.

7. Leiterplatte VPT

6) Die Leiterplatte mit den 2 Steckern abziehen.

7. VPT P.C.B

6) Disconnect the circuit board with 2 connectors.

7. Scheda A2 (Stereo)

6) Estrarre la piastra con i due connettori.

8. Leiterplatte Buchsen

7) Die 2 Stecker und die Leiterplatte mit den 3 Steckern abziehen.

8. Jack P.C.B

7) Disconnect 2 connectors and the circuit board with 3 connectors.

8. Scheda prese

7) Estrarre i due connettori e la piastra con i tre connettori.

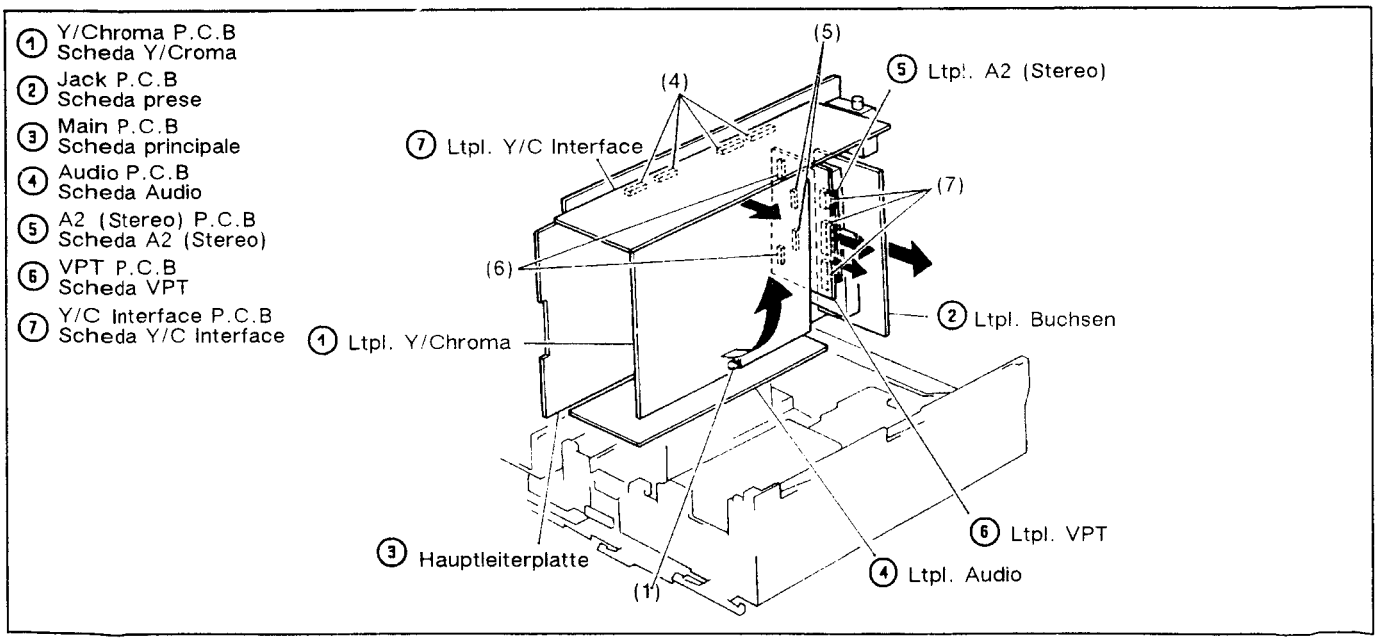


Bild 4-5

Fig. 4-5

Fig. 4-5

9. Netzteilblock

1) Eine Schraube entfernen.
2) Das Lüftungsgitter entfernen.

9. Power Supply Block

1) Remove one screw.
2) Remove the rear piece.

9. Blocco alimentatore

1) Togliere una vite.
2) Togliere la griglia di ventilazione.

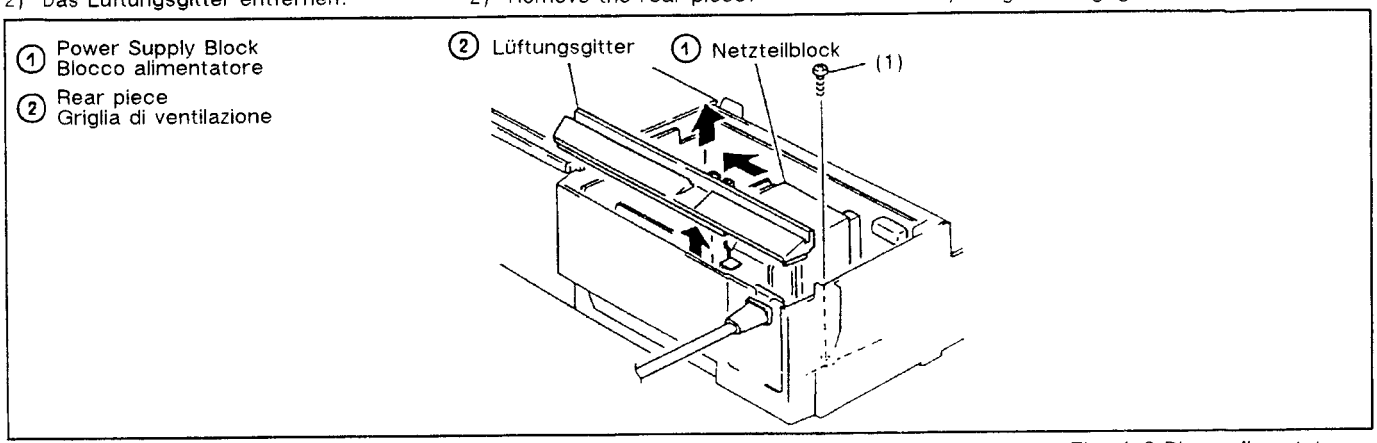


Bild 4-6 Netzteilblock

Fig. 4-6 Power Supply Block

Fig. 4-6 Bloco alimentatore

10. Leiterpl. Frontbuchsen & Halter

1) Drei Schrauben entfernen und zwei Laschen lösen: den Frontbuchsenhalter entfernen.
2) Zwei Schrauben entfernen. dann die Frontbuchsen-Leiterplatte.

10. Front Jack P.C.B and Holder

1) Remove 3 screws and release 2 tabs and remove the front jack holder.
2) Remove 2 screws and remove the front jack P.C.B.

10. Piastra prese frontali e supporto

1) Togliere 3 viti. 2 staffe e il supporto delle prese frontali.
2) Togliere due viti e la piastra delle prese frontali.

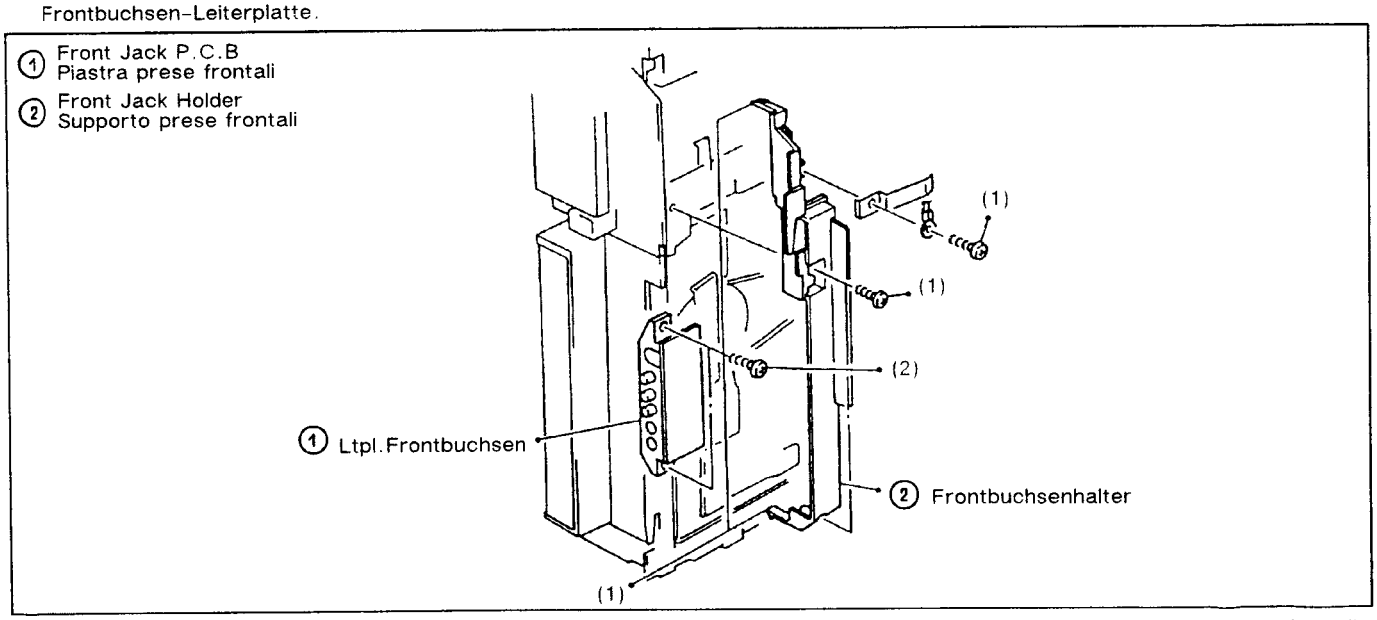


Bild 4-7 Ltpl. Frontbuchsen

Fig. 4-7 Front Jack P.C.B

Fig. 4-3 Piastra prese frontali

11. Ltpl. Sensoren

1) Eine Schraube und den Kupplungsgetriebehalter entfernen.
2) Die Scheibe entfernen.
3) Den Wickeltellerriemen abnehmen.
4) Vier Schrauben entfernen.
5) Stecker abziehen.

11. Sensor P.C.B

1) Remove one screw and the clutch base holder.
2) Remove the washer.
3) Remove the reel belt.
4) Remove 4 screws.
5) Disconnect connector.

11. Scheda sensori

1) Staccare una vite e il supporto della scatola ingranaggi/frizione.
2) Togliere la rondella.
3) Togliere la cinghia del disco di avvolgimento.
4) Togliere 4 viti.
5) Staccare il collegamento.

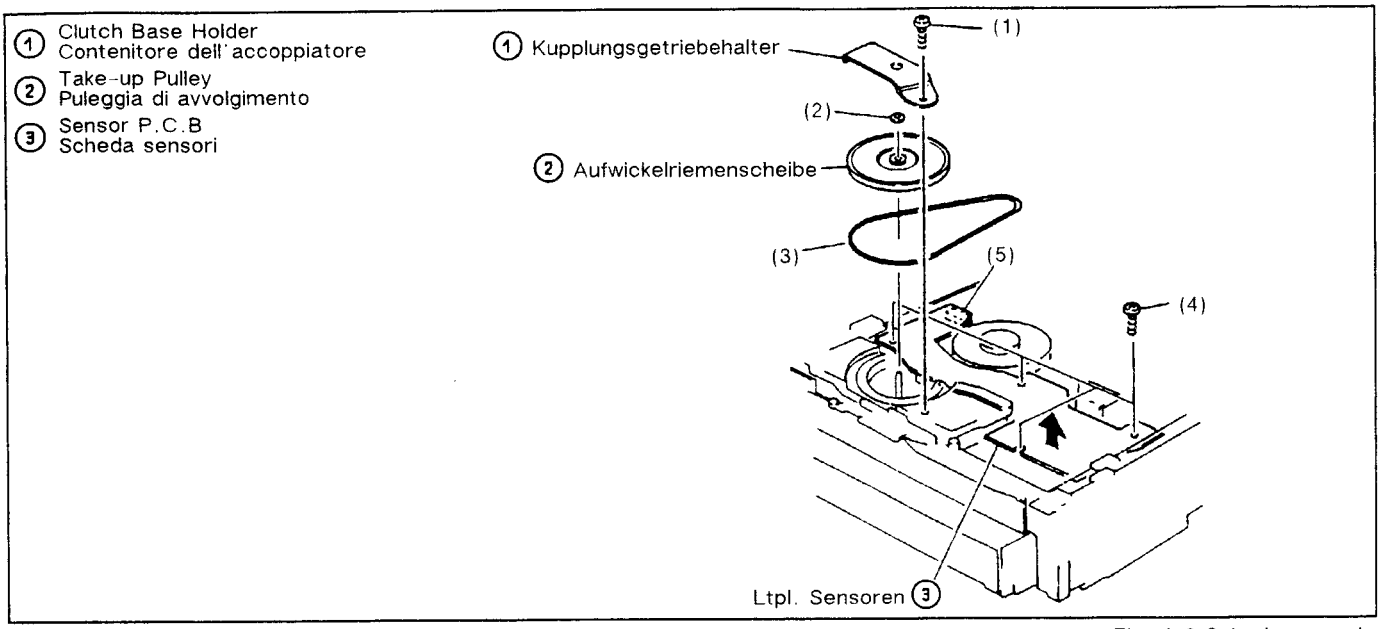


Bild 4-8 Ltpl. Sensoren | Fig. 4-8 Sensor P.C.B | Fig. 4-8 Scheda sensori

12. Leiterplatte Vorverstärker/Kopfumschaltung

1) Zwei Schrauben entfernen.
2) Drei Stecker abziehen.

12. PreAmp/Head SW P.C.B

1) Remove 2 screws.
2) Disconnect 3 connectors.

12. Scheda preamplificatore/commutazione della testa

1) Togliere 2 viti.
2) Staccare i 3 collegamenti.

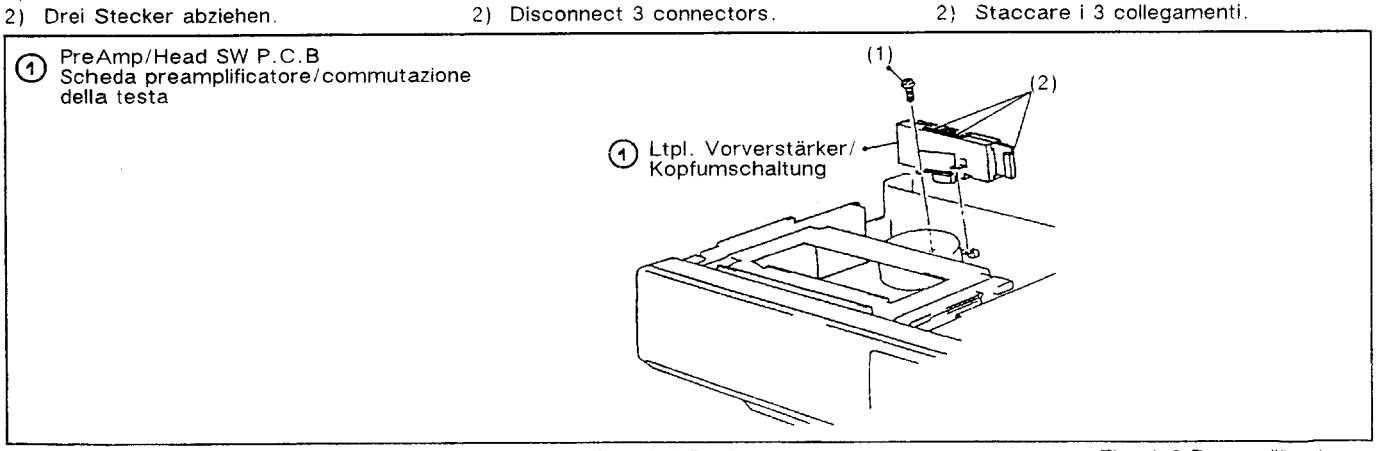


Bild 4-9 Vorverstärker | Fig. 4-9 PreAmp | Fig. 4-9 Preamplificatore

13. Leiterplatte Y/C Separate

1) Drei Schrauben entfernen.

12. Y/C Separate P.C.B

1) Remove 3 screws.

12. Scheda Y/C Separate

1) Togliere 3 viti.

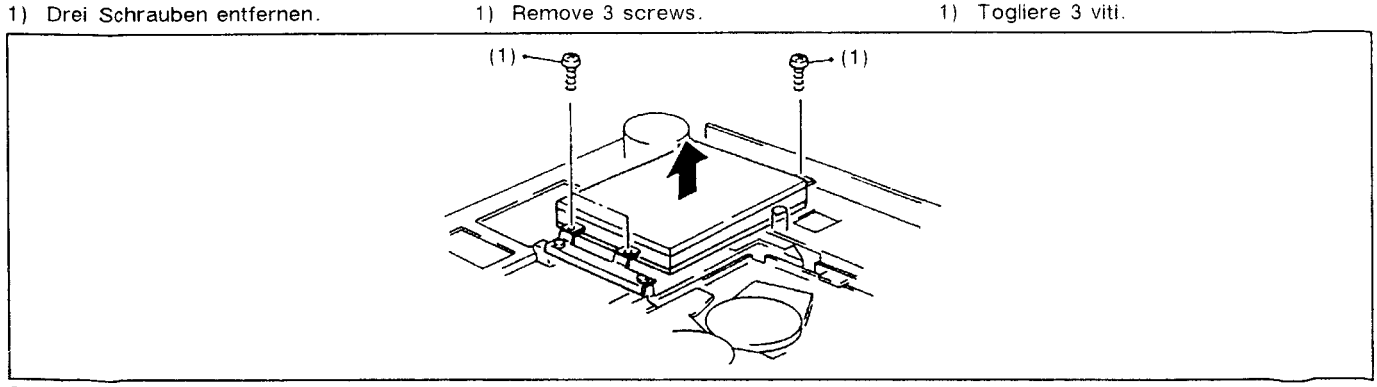


Bild 4-10 Ltpl. Y/C Separate | Fig. 4-10 Y/C Separate P.C.B | Fig. 4-10 Scheda Y/C Separate

5. DEMONTAGE DER CASSETTEN-LADEMECHANIK

Hinweis auf die zuerst zu entfernenden Komponenten:
* Gehäuseoberteil, Bodenabdeckung
* Frontblende

Die Teile der Cassettenlademechanik in der angezeigten Reihenfolge entfernen.

1. Cassettenlademechanik, Cassettenschachtklappe

Cassettenlademechanik
1) Drei Schrauben entfernen.
2) Die Rückseite der Mechanik anheben und dabei die Einhängepunkte an der vorderen Unterseite freigeben.

Cassettenschachtklappe
3) Die linke Seite der Fronthalterung in Pfeilrichtung nach außen drücken und die Cassettenschachtklappe herausnehmen.

5. CASSETTE LOADING MECHANISM REMOVAL

Note:
Components to remove previously.
* Top and bottom covers
* Front panel

Remove the parts of the cassette loading mechanism in the order listed.

1. Cassette Loading Mechanism Assembly and Cassette Door

Cassette Loading Mechanism Ass'y
1) Remove 3 screws.
2) Lift up the rear of the cassette loading mechanism ass'y and release the fittings on the front bottom.

Cassette Door
3) Push the left of the front holder outward in the direction of the arrow and remove the cassette door.

5. SMONTAGGIO DELLA MECCANICA CARICASSETTA

Indicazioni sui componenti da togliere per primi:
* Pannello superiore della custodia, coperchio del fondo
* Pannello frontale

Togliere la parti della meccanica del caricamento delle cassette nell'ordine illustrato.

1. Meccanica caricacassetta, completo

Meccanica caricacassetta
1) Eliminare le 3 viti.
3) Sollevare la parte posteriore del gruppo meccanico e liberare i punti di ritegno sulla parte anteriore in basso.

Sportello vano cassetta
4) Spingere verso l'esterno nel senso della freccia il lato sinistro del supporto frontale ed estrarre il vano cassetta.

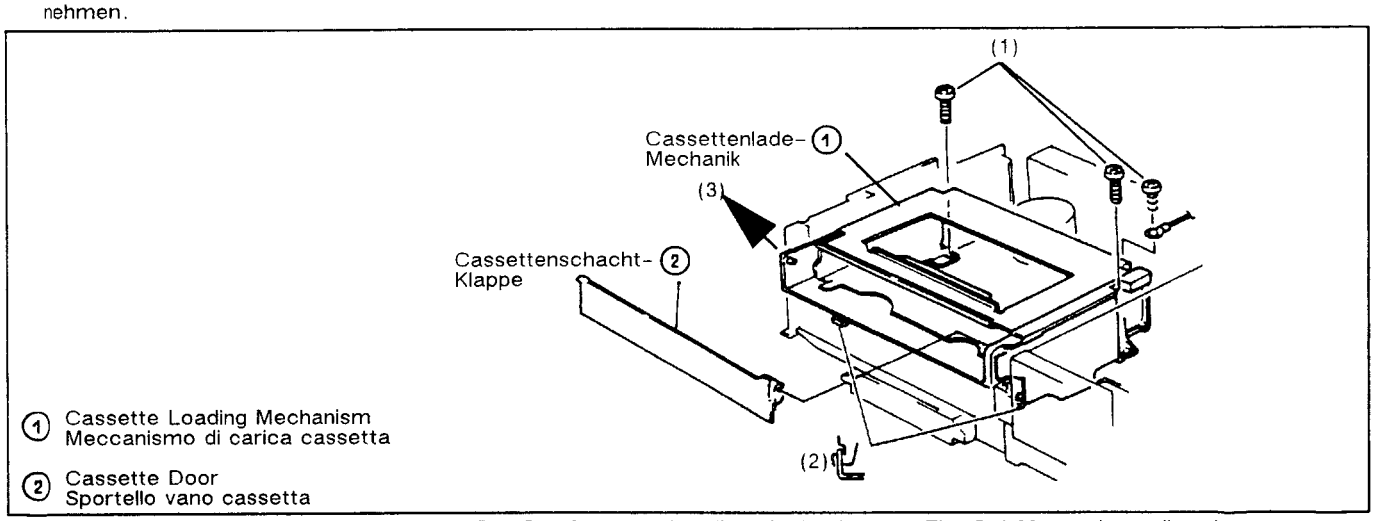


Bild 5-1 Cassettenlademechanik, Cassettenschachtklappe

Fig. 5-1 Cassette Loading Mechanism, Cassette Door

Fig. 5-1 Meccanismo di carica cassetta, Sportello vano cassetta

2. Cassettenladegetriebe

Cassettenladegetriebe
1) Die 2 Laschen lösen, die mit der Chassishalterung verbunden sind und eine Lasche lösen, die mit dem Fronthalter verbunden ist. Dann das komplette Cassettenladegetriebe abnehmen.

Chassishalterung
2) Die 2 Laschen lösen, die mit dem Fronthalter verbunden sind.

Cassettenlift
3) Das Antriebszahnrad herausziehen und den kompletten Cassettenlift entfernen.

Fronthalterung
4) Achse und Antriebsarm (L) vom Fronthalter entfernen.

2. Loading Gear Assembly

Loading Gear Assembly
1) Release 2 tabs that engage with the chassis holder and one tab that engages with the front holder, then separate the loading gear assembly.

Chassis Holder
2) Release 2 tabs that engage with the front holder.

Cassette Holder Assembly
3) Separate the drive gear and remove the cassette holder assembly.

Front Holder
4) Remove the shaft pin and drive arm L.

2. Meccanica caricassetta

Meccanica caricassetta
1) Liberare le due linguette di ritegno con il supporto del supporto chassis e la linguetta collegata con il supporto frontalino. Estrarre il guppo meccanico di caricamento cassetta.

Supporto chassis
2) Liberare le due linguette collegate con il supporto frontalino.

Spingicassetta
3) Estrarre l'ingranaggio di azionamento e lo spingicassetta completo.

Supporto frontalino
4) Rimuovere l'asse ed il braccetto di trasporto (sx).

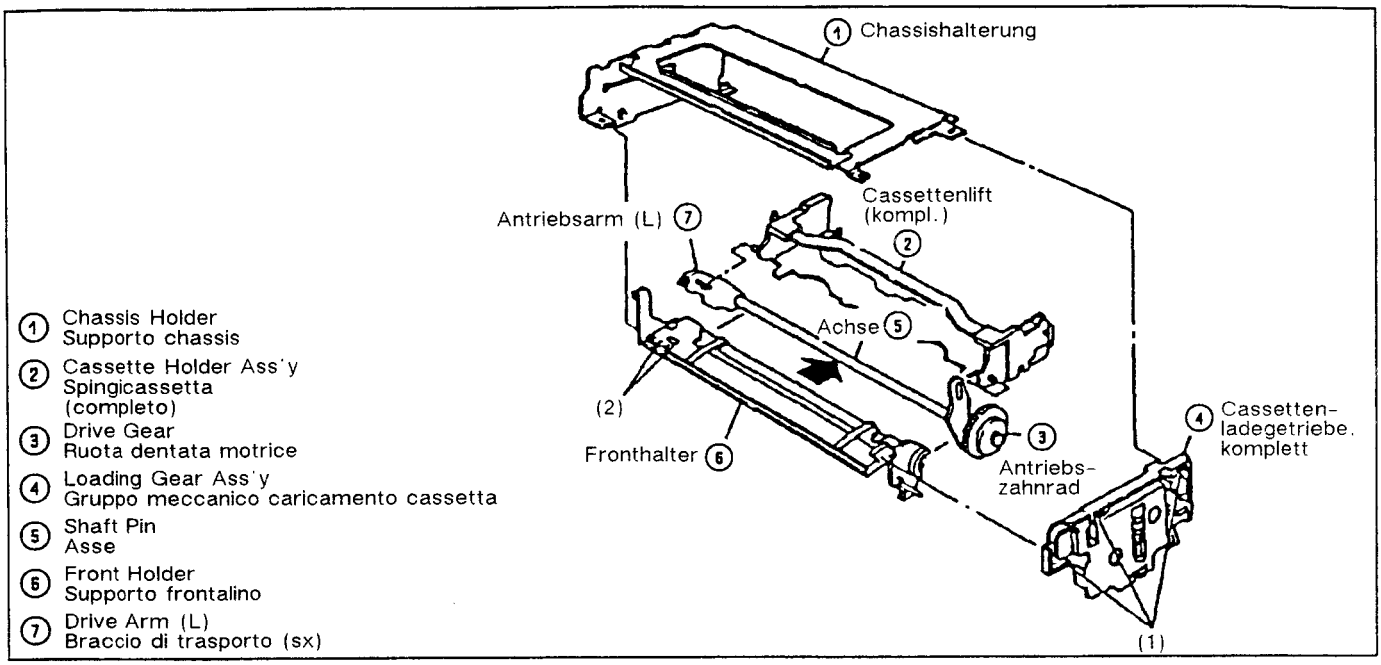


Bild 5-2 Cassettenlademechanik (demontiert)

Fig. 5-2 Loading Mechanism Ass'y (disassembled)

Fig. 5-2 Gruppo meccanico caricamento cassetta (smontato)

3. Cassettenlift

Cassettenliftbasis

1) Die 4 Laschen auf den Cassettenhaltern (L/R) lösen.

Cassettenhalter (L/R)

2) Zwei Laschen auf den Cassettenhaltern (L/R) lösen. Halter abziehen.

3. Cassette Holder Ass'y

Cassette Holder Base

1) Release 4 tabs on the L/R cassette holders.

Cassette Holders (L/R)

2) Release the tabs on the cassette holders L/R and pull out the holders.

3. Spingicassetta

Base spingicassetta

1) Allentare le 4 linguette del portacassetta (L/R).

Supporto cassetta (sx/dx) L/R

2) Staccare le 2 linguette sul supporto cassetta (sx/dx) e togliere il supporto.

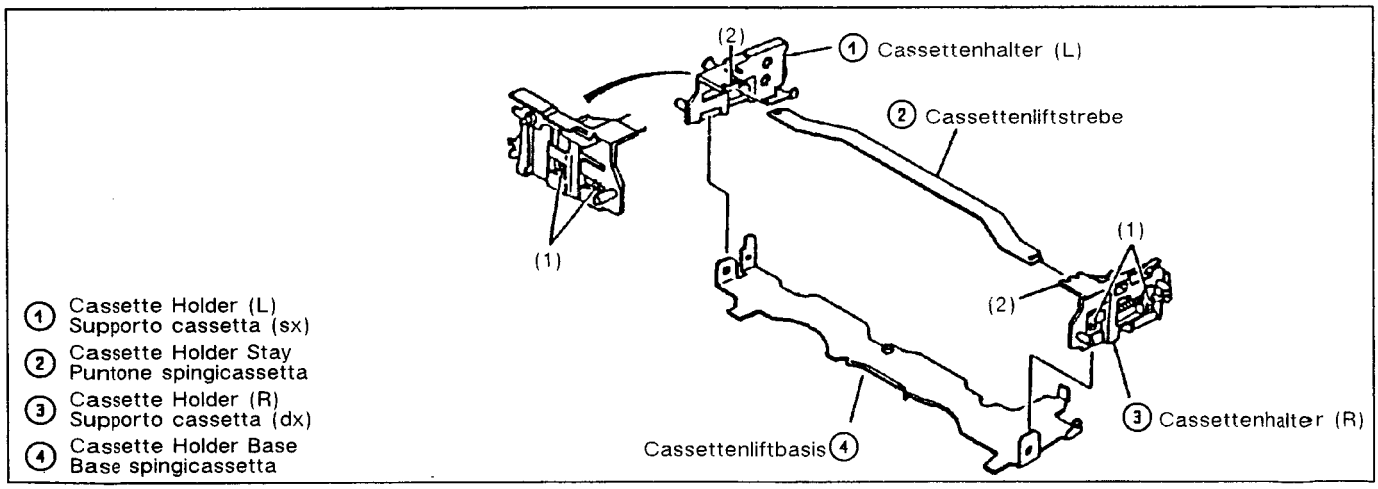


Bild 5-3 Cassettenlift (kompl.)

Fig. 5-3 Cassette Holder Ass'y

Fig. 5-3 Spingicassetta (completo)

4. Seitenchassis

Seitenchassis

1) Die 4 Laschen freigeben, die eine Verbindung mit dem Ladegetriebe bewirken.

FL-Schneckenwelle

2) Die FL-Schneckenwelle herausziehen.

Klappenhebel

3) Den Klappenhebel herausnehmen.

Schneckenrad

4) Das Schneckenrad herausnehmen.

Schalthebel (A/B)

5) Die Feder zwischen Schalthebel (A) und dem Getriebeträger entfernen.
6) Schalthebel (A) und (B) herausnehmen.

4. Side Chassis

Side Chassis

1) Release 4 tabs that engage with the loading gear assembly.

FL Worm Gear

2) Pull out the FL worm gear.

Door Arm

3) Pull out the door arm.

Worm Wheel

4) Pull out the worm wheel.

Switch Levers A/B

5) Remove the spring between switch lever (A) and gear bracket.
6) Pull out switch levers (A) and (B).

4. Chassis laterale

Chassis laterale

1) Sbloccare le 4 linguette di collegamento al meccanismo di carico.

Albero filettato FL

2) Estrarre l'albero filettato FL.

Levetta portello

3) Estrarre la leva dello sportellino.

Ingranaggio elicoidale

4) Estrarre l'ingranaggio elicoidale.

Levetta di commutazione A/B

5) Rimuovere la molla fra leva di commutazione (A) e supporto elementi meccanici.
6) Estrarre le leve di commutazione (A) e (B).

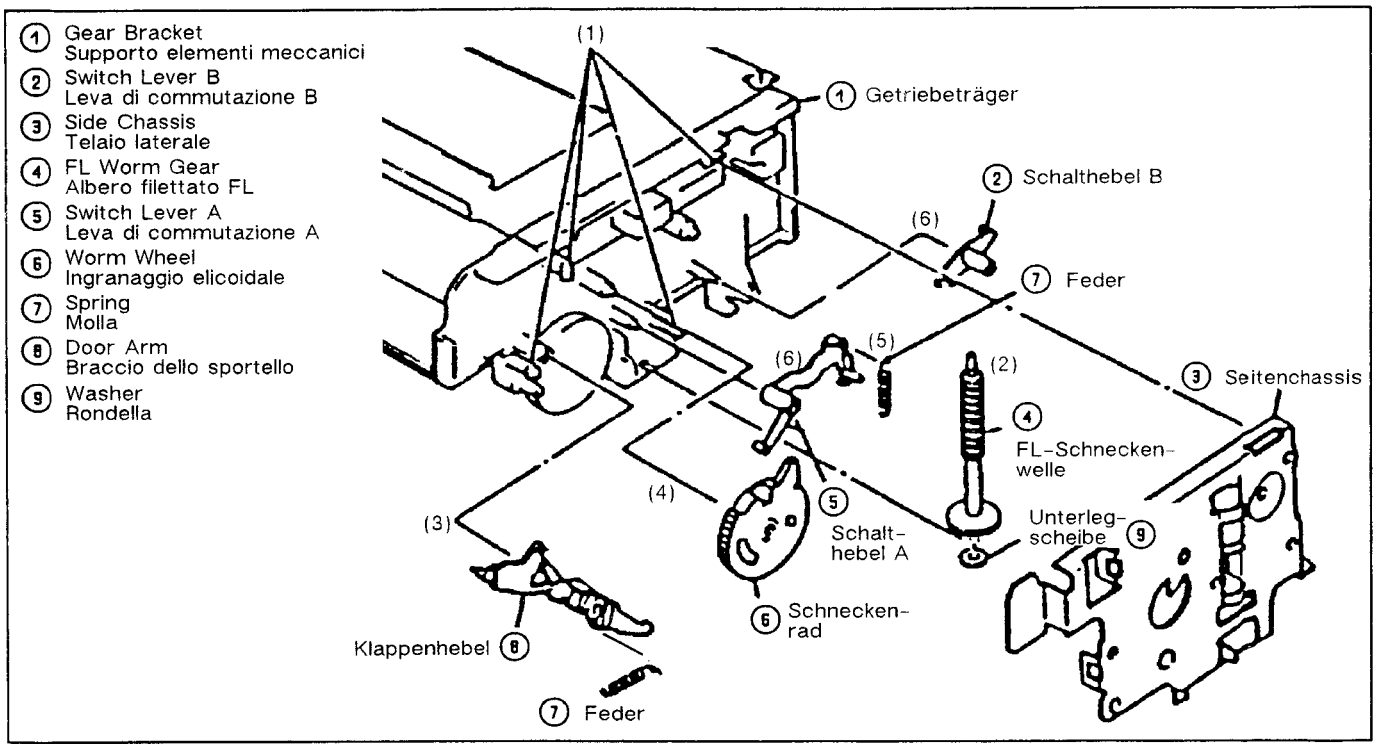


Bild 5-4 Ladegetriebe, demontiert

Fig. 5-4 Loading Gear, disassembled

Fig. 5-4 Ingranaggio di caricamento, (smontato)

Zur Beachtung beim Wiedereinbau.
Der Wiedereinbau erfolgt in umgekehrter Richtung zum Ausbau. Folgende Hinweispunkte sind zu beachten.

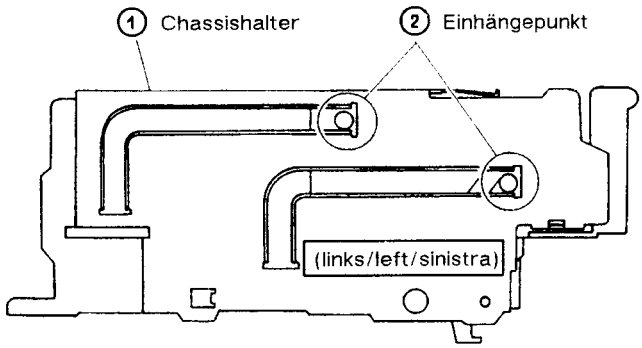
* Kontrollieren, ob die 2 Bolzen des Cassettenhalters (L) in die 2 Schlitze links im Chassishalter eingesetzt sind. (Bild 5-5)
* Beim Einbau des kompletten Ladegetriebes darauf achten, daß die 2 Bolzen des Cassettenhalters (R) in die Schlitze rechts im Chassishalter eingesetzt sind. (Bild 5-6)
* Kontrollieren, ob die Marke △ des Antriebszahnrads auf die Marke ◇ des Schneckenzahnrads ausgerichtet ist. (Bild 5-6)
* Kontrollieren, ob der Bolzen des Schalthebels (A) im Nockensektor des Antriebszahnrades aufliegt.
* Beim Wiedereinbau der Cassettenschachtklappe darauf achten, daß der Bolzen des Klappenhebels in das Loch der Cassettenschachtklappe eingesetzt ist.

Cautions when reinstalling.
Reinstall the components by the reverse procedure to removal, taking care of the following items.

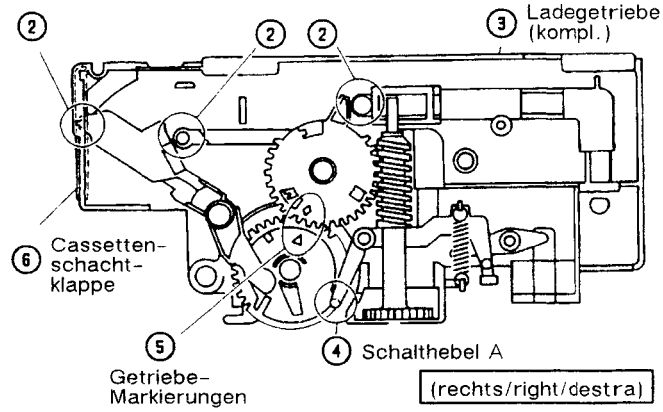
* Check that 2 bosses of the cassette holder are inserted into the grooves on the left of the chassis holder. (Fig. 5-5)
* When reinstalling the loading gear assembly, check that 2 bosses of the cassette holder are inserted into the grooves on the right of the chassis holder. (Fig. 5-6)
* Check that marking △ on the drive gear and marking ◇ on the worm wheel gear are aligned. (Fig. 5-6)
* Check that the boss of cassette switch lever (A) is set to the cam section of the drive gear.
* When reinstalling the cassette door, check that the boss of the door arm is inserted into the groove in the cassette door. (Fig. 5-6)

Note per il montaggio:
Il montaggio si effettua in ordine inverso. Durante questa fase e' importante osservare quanto segue.

* Controllare che i due perni del supporto cassetta (L) siano correttamente inseriti nelle due guide a sinistra, nel supporto del chassis.
* Durante il montaggio del gruppo meccanico di caricamento cassetta, verificare che il due perni del supporto cassetta (R) siano correttamente inseriti nelle guide a destra nel supporto del chassis.
* Controllare che il simbolo △ dell'ingranaggio di comando sia orientato sul simbolo ◇ della chiocciola (fig. 5-6).
* Controllare che il perno della leva di commutazione (A) si trovi nel settore a camme dell'ingranaggio di comando.
* Durante il montaggio di portellino della cassetta, fare attenzione che il perno della levetta sia correttamente inserito nel foro del portellino.



Bild/Fig. 5-5



Bild/Fig. 5-6

① Chassis Holder
Supporto chassis
② Insert
Punto di sospensione
③ Loading Gear Ass'y
Gruppo meccanico caricamento cassetta
④ Switch Lever A
Leva di commutazione A
⑤ Gear Markings
Marcature ingranaggio
⑥ Cassette Door
Sportello vano cassetta

6. AUSBAU DER MECHANISCHEN HAUPTKOMPONENTEN

1. Trommeleinheit mit Motor
2. Köpfe:
   Impedanzrolle mit FE-Kopf
   A/C-Kopf
3. Kopfreinigungshebel.
   Kopfreinigungshalterung
4. Capstanmotor
5. Bandzughebel. Bremsband
6. Gleitblock. Tellerantriebszwischenrad
7. Vorrats-/Aufwickelteller. Bremsen
8. Rollen und Führungsstifte
+ Andruckrolle
+ Bandführungsstift. abwickelseitig
+ Bandführungsstift. aufwickelseitig
+ Bandführungsrollen abwickel-/aufwikkelseitig
9. Einfädelmotorblock. Bremsgestänge-. FS-Brems- und Verriegelungshebel
10. Fädelmotorträger. Umlenkstift und Aufwickelbremse
11. Bremsenbetätigungshebel. Steuerkurvenräder A & B. Schneckenrad. Andruckrollenbetätigungshebel. Funktionssteuerhebel. Bremsenhubhebel
12. Trommelmotorbasis und abwickel-/aufwickelseitige Einfädelhebel
13. Aufwickelriemenscheibe und Kupplungsgetriebe
14. Aufwickelzahnrad. Schalthebel. Schaltzahnrad. FL-Schaltzahnrad. FL-Schalthebel. Zwischenzahnrad

Hinweis:Die folgenden Teile vorher ausbauen:

* Gehäuseoberteil / Bodenabdeckung
* Frontblende

6. MAIN MECHANICAL COMPONENTS REMOVAL

1. Cylinder Motor Assembly
2. Heads:
   Impedance Roller/FE Head
   A/C Head
3. Head Cleaning Arm Ass'y. Head Cleaning Bracket Ass'y
4. Capstan Motor Assembly
5. Tension Arm. Tension Band
6. Slider Block. Reel Drive Idler
7. Supply/Take-up Reel Disks. Brakes
8. Rollers and Guides
+ Pressure Roller
+ Supply Guide Pole
+ Take-up Guide Pole
+ Supply/Take-up Guide Rollers
9. Loading Motor Assembly. Brake Link Arm. FS Brake Arm. Latch Arm
10. Load Bracket Assembly. Drawer Pin and Take-up Brake
11. Brake Operation Arm. Mode Gear A, Mode Gear B. Worm Wheel. Pressure Roller Operation Arm. Mode Change Arm and Brake Lift Arm
12. Cylinder Motor Base and Supply/Take-up Loading Arms
13. Take-up Pulley and Clutch Base Assembly
14. Take-up Gear. Change Arm. Change Gear. FL Change Gear. FL Change Lever. Relay Gear

Note: Remove the following parts before working:

* Top and bottom covers
* Front panel

6. SMONTAGGIO DEI PRINCIPALI COMPONENTI MECCANICI

1. Gruppo tamburo con motore
2. Teste: Rullo d'impedenza con testa FE. Testa A/C
3. Leva di pulizia testina.
   Supporto di pulizia testina
4. Motore Capstan (completo)
5. Leva tensionamento. freno nastro
6. Blocco di scorrimento e ingranaggio intermedio di azionamento disco
7. Disco di svolgimento/avvolgimento. freni
8. Rulli e perni di guida
+ Rullo pressore
+ Perno di guida nastro lato svolgimento
+ Perno di guida lato avvolgimento
+ Rulli di guida nastro lato svolgimento e avvolgimento
9. Blocco motore inserimento nastro. leveraggi freni. leva freno FS. leva di blocco
10. Supporto motore inserimento nastro. perno di rinvio e freno avvolgimento
11. Leva comando freno. ingranaggi curva di comando A e B. chiocciola. leva comando rullo pressore. leva comando funzioni e leva corsa freno
12. Base motore tamburo. leve di inserimento (svolgimento/avvolgimento).
13. Puleggia lato avvolgimento e gruppo ingranaggi del giunto di trasmissione
14. Ingranaggio avvolgimento. leva di commutazione. ingranaggio di commutazione. ingranaggio di commutazione FL. leva di commutazione FL. ingranaggio intermedio

Nota: Smontare prima le seguenti parti:

* Pannello superiore / pannello di fondo
* Pannello frontale

1. Trommeleinheit mit Motor

1) Eine Schraube und die Massebürste entfernen.

(Unterseite)

2) Steckverbindung von der Trommelmotorleiterplatte abziehen.
3) Die 3 Befestigungsschrauben der Trommeleinheit entfernen.

(Oberseite)

4) Die komplette Trommeleinheit nach oben herausziehen.

Zur Beachtung während der Arbeiten:

* Die Videoköpfe nicht mit den Fingern oder Werkzeugen berühren.

Einstellungen nach dem Wiedereinbau:
Kopfumschaltpunkt
Abgleicharbeiten nach dem Austausch der Kopftrommel (S. 1-57).

1. Cylinder Motor Assembly

1) Remove one screw and static discharge brush.

(Bottom Side)

2) Disconnect the connector from the cylinder motor circuit board.
3) Remove 3 screws holding the cylinder.

(Top Side)

4) Pull out the cylinder motor assembly upward.

(Cautions during work)

* Do not touch the video head tips with fingers or tools.

(Adjustments after reinstallation)
Head Switching Point.
Adjustments after replacing the cylinder.(page 1-57)

1. Gruppo completo tamburo

1) Smontare una vite e la spazzola di massa.

(Lato inferiore)

2) Scollegare lo spinotto della scheda motore del cilindro.
3) Togliere le 3 viti di fissaggio dal gruppo del tamburo.

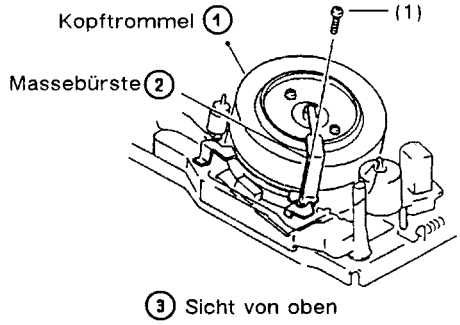
(Lato superiore)

4) Estrarre verso l'alto il gruppo del tamburo completo.

Durante i lavori osservare quanto segue:

* Non toccate le teste video con le dita o attrezzi.

Regolazioni dopo il rimontaggio:
Commutazione della testa video.
Tarature dopo la sostituzione del tamburo di testa (p. 1-57)



① Cylinder
Cilindro
② Static Discharge Brush
Spazzola di massa
③ Top View
Vista dall'alto
④ Bottom View
Vista dal basso

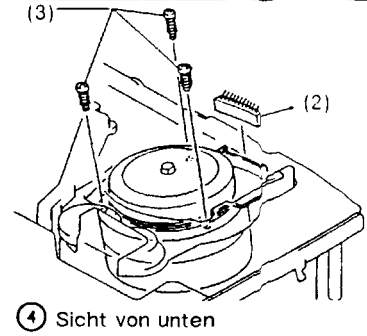


Bild 7-1 Trommeleinheit, komplett

Fig. 7-1 Cylinder Motor Ass'y

Fig. 7-1 Gruppo completo tamburo

2. Köpfe

Impedanzrolle mit FE-Kopf (Bild 7-2)

1) Die Feder zwischen FE-Kopfträger und Chassis entfernen.
2) Stecker abziehen.
3) Die Befestigungsmutter des Führungsstifts entfernen. Führungsstift herausziehen.
4) Die Lasche lösen. Impedanzrolle mit FE-Kopf entfernen.
5) Zum Herausnehmen des FE-Kopfs zwei Laschen lösen.

Einstellungen nach dem Wiedereinbau:

* Führungsstifthöhe

A/C-Kopf (Bild 7-2)

6) Stecker abziehen.
7) Die Befestigungsmutter des Kopfträgers entfernen. Kopfträger nach oben abziehen.

Zur Beachtung beim Wiedereinbau.

* Das Federende unter dem Kopträger am Chassis einhängen, den Anfang am Anschlag des Kopfträgers.
* Kontrollieren, ob das Federteil auf der A/C-Kopfbefestigungsschraube ca. 6,3mm über die Oberkante des Kopfträgers 1 hinausragt.
* Kontrollieren, ob Kopfträger 1 und 2 parallel sind.

Einstellungen nach dem Wiedereinbau:
Einstellung des A/C-Kopfs
Einstellung des X-Wertes
Audio-Vormagnetisierungseinstellung

2. Heads

Impedance Roller/FE Head (Fig. 7-2)

1) Remove the spring between the FE head base and chassis.
2) Remove the nut holding the guide pole and pull out the pole.
3) Release one tab and remove the impedance roller/FE head.
4) To separate the FE head, release 2 tabs and pull out the FE head.

(Adjustments after reinstalling)

* Guide Poles Height

A/C Head (Fig. 7-2)

5) Disconnect the connector.
6) Remove the nut holding the head base and pull the head base up and out.

(Cautions when reinstalling)

* Hook the bottom of the spring under the head base to the chassis and the top to the stopper of the head base.
* Check that the spring section of the A/C head retaining screw protrudes 6.3mm above head base 1.
* Check that head bases 1 and 2 are parallel.

(Adjustments after reinstallation)
A/C Head Adjustment
X-Value Adjustment
Audio Bias Level Adjustment

2. Teste

Rullo d'impedenza con testa FE (Fig. 7-2)

1) Togliere la molla che si trova fra il portatestina FE e lo chassis.
2) Estrarre la spina.
3) Togliere il dado di fissaggio della spina di guida ed estrarre la spina.
4) Allentare la linguetta, smontare il rullo di impedenza con la testina FE.
5) Allentare 2 linguette per estrarre la testina FE.

Attenzione nel rimontaggio:

* Altezza perni guidanastro

Testa A/C (Fig. 7-2)

6) Estrarre la spina.
7) Smontare il dado di fissaggio del portatestina ed estrarre verso l'alto la testina.

Attenzione nel rimontaggio:

* Agganciare l'estremita' della molla allo chassis sotto il portatestina, l'inizio sulla battuta del portatestina.
* Verificare che la molla sulla vite di fissaggio della testina A/C si trovi a circa 6.3mm di distanza dalla parte superiore del supporto testina 1 .
* Verificare che i supporti (1) e (2) della testina siano paralleli.

Regolazione dopo il rimontaggio:
Regolazione della testa A/C
Regolazione del valore X
Regolazione del livello della premagnetizzazione audio

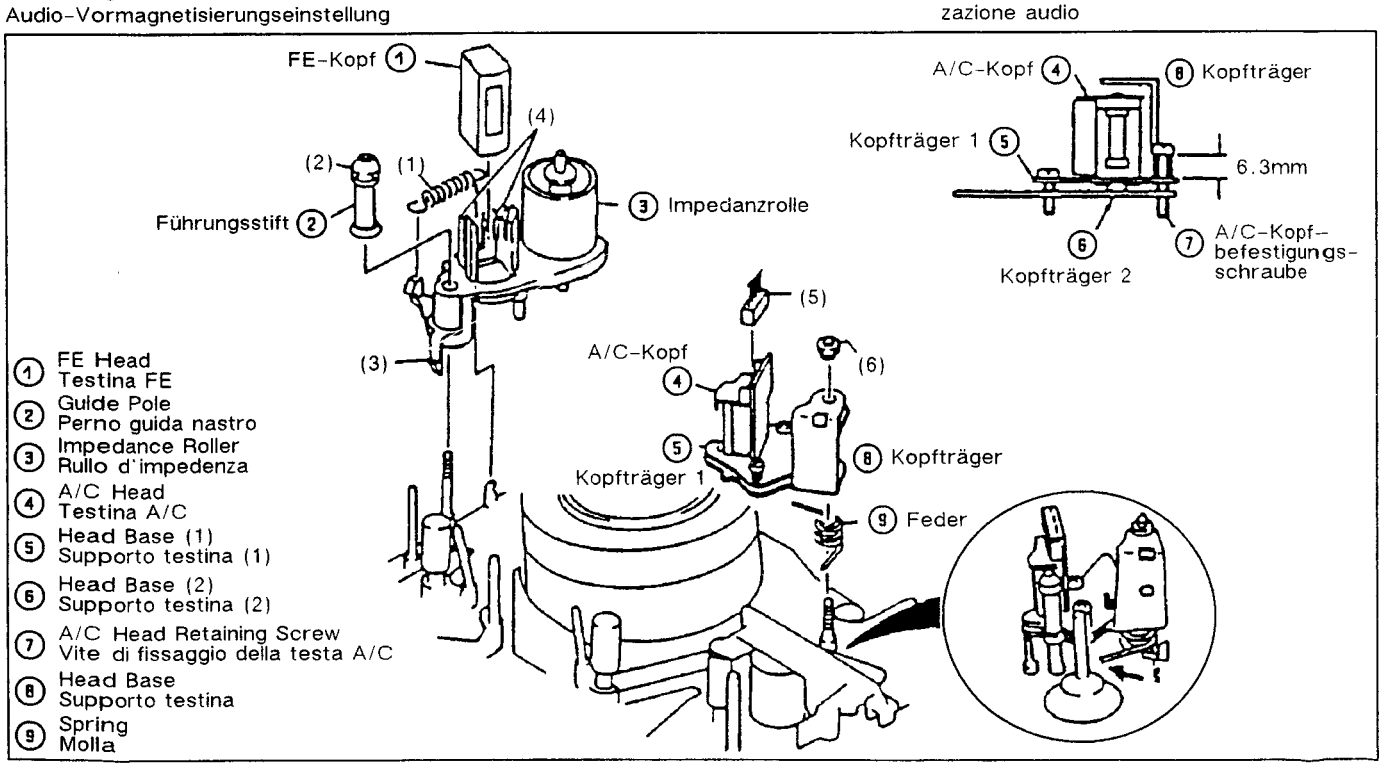


Bild 7-2 Impedanzrolle, A/C-Kopf, Vollspur-Löschkopf

Fig. 7-2 Impedance Roller, A/C Head, Full Erase (FE) Head

Fig. 7-2 Rullo d'impedenza, testa A/C, Testina di cancellazione a piena traccia

3. Kopfreinigungshebel, Kopfreinigungshalterung (Bild 7-3)

1) Die Fixierscheibe entfernen.
2) Die Feder entfernen.
3) Zwei Schrauben entfernen und den kompletten Kopfreinigungshebel mit der Halterung abziehen.

3. Head Cleaning Arm Ass'y, Head Cleaning Bracket Ass'y (Fig. 7-3)

1) Remove the washer.
2) Remove the spring.
3) Remove 2 screws and pull out the head cleaning arm ass'y and the head cleaning bracket assembly.

3. Leva di pulizia testina, supporto di pulizia testina (Fig. 7-3)

1) Rimuovere la rondella di fissaggio.
2) Smontare la molla.
3) Svitare le 2 viti e staccare la leva di pulizia testina completa insieme al supporto.

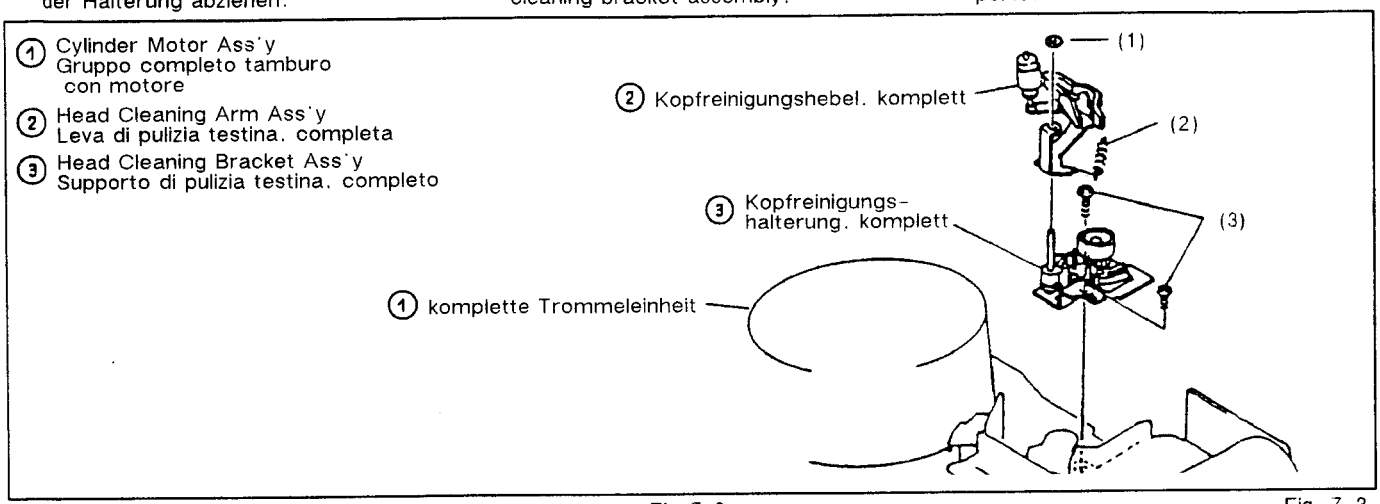


Bild 7-3 Fig.7-3 Fig. 7-3

4. Capstanmotor (Bild 7-4)

1) Den Wickeltellerriemen entfernen.
2) Den Stecker abziehen.
3) Drei Schrauben entfernen und den Capstanmotor herausziehen.

* Die Capstanwelle nach Aus- und Wiedereinbau des Capstanmotors sauber halten.

4. Capstan Motor Ass'y (Fig. 7-4)

1) Remove the reel belt.
2) Disconnect the connector.
3) Remove 3 screws and pull out the capstan motor assembly.

* Keep the capstan shaft clean when removing and reinstalling the capstan motor assembly.

4. Unita' motore capstan (Fig. 7-4)

1) Rimuovere la cinghia del disco.
2) Estrarre una spina.
3) Svitare le tre viti ed estrarre il motore capstan.

* Pulire l'asse del motore capstan dopo lo smontaggio/montaggio.

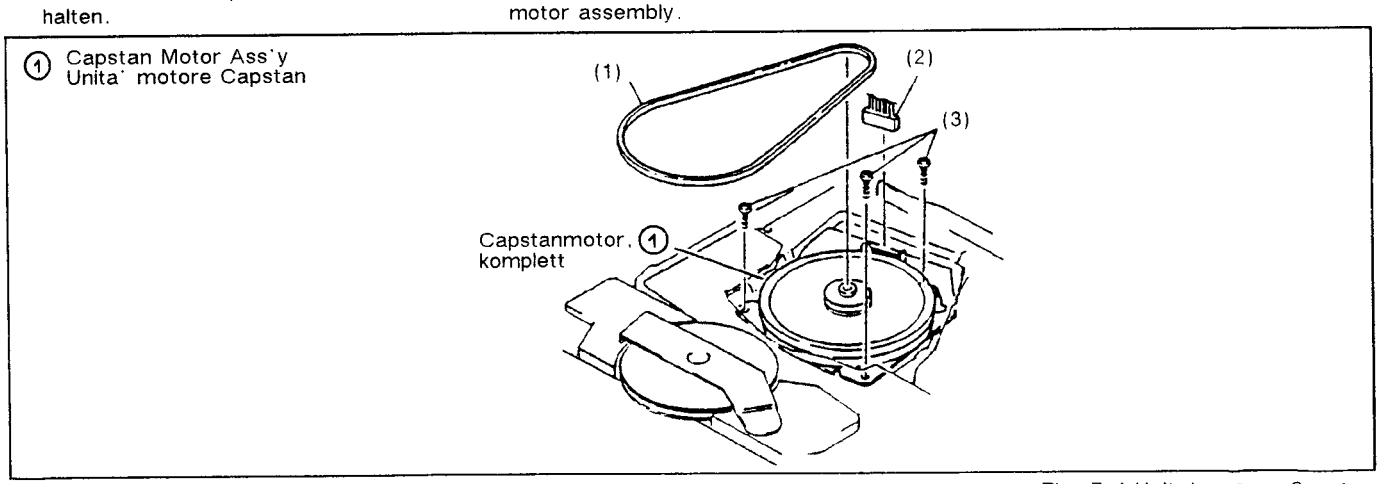


Bild 7-4 Capstanmotor (kompl.) Fig.7-4 Capstan Motor Ass'y Fig. 7-4 Unita' motore Capstan

5. Bandzughebel/Bremsband (Bild 7-5)

1) Die Feder zwischen Bandzughebel und Federhalterung entfernen.
2) Zwei Laschen lösen.
3) Die Vorratstellerhilfsbremse in Pfeilrichtung bewegen und das Bremsband mit Bandzughebel entfernen.

5. Tension Arm / Tension Band (Fig. 7-5)

1) Remove the spring between the tension arm and spring holder.
2) Release 2 tabs.
3) Move the supply subbrake in the direction of the arrow and remove the tension band and tension arm.

5. Leva di tensionamento / freno a nastro (Fig. 7-5)

1) Rimuovere la molla fra leva e supporto.
2) Allentare 2 linguette.
3) Muovere nel senso della freccia il freno ausiliario e togliere il nastro di freno con la leva di trazione nastro.

① Tension Arm
Leva tensionamento nastro
② Tension Band
Freno a nastro
③ Supply Sub Brake
Freno ausiliario di svolgimento

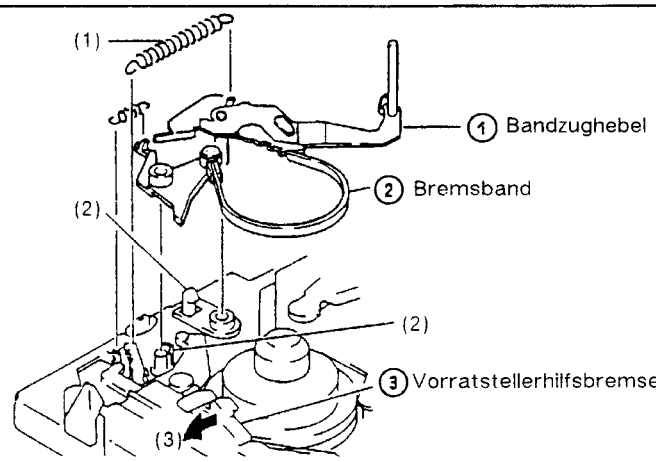


Bild 7-5 Bandzughebel/Bremsband

Fig. 7-5 Tension Arm/Tension Band

Fig. 7-5 Leva tensionamento nastro/ freno a nastro

6. Gleitblock und Tellerantriebszwischenrad (Bild 7-6)

Gleitblock
1) Die 2 Schrauben entfernen.
Zur Beachtung beim Wiedereinbau:
(a) Beim Einbau die Haupt- und Hilfsbremsen in Pfeilrichtung (A) schieben: (B)-Pfeilmarkierung drücken.
(b) Kontrollieren, ob die Bolzen des Fädelmotorträgers in die Gleitstücke eingesetzt sind.

Tellerantriebszwischenrad
2) Das Tellerantriebszwischenrad von der Zahnradachse abziehen.

6. Slider Block and Reel Drive Idler (Fig. 7-6)

Slider Block (Fig. 7-6)
1) Remove 2 screws.
(Cautions when reinstalling)
(a) Assemble main brakes and sub brakes while pushing them in the direction of arrows (A) and the pressing of arrow marked (B).
(b) Check that the bosses of the load bracket assembly are inserted into the sliders.

Reel Drive Idler (Fig. 7-6)
2) Pull out the reel drive idler from the gear shaft.

6. Blocco di scorrimento e ingranaggio intermedio di azionamento disco (Fig. 7-6)

Blocco di scorrimento (Fig. 7-6)
1) Togliere le 2 viti.
Attenzione al rimontaggio:
(a) Spingere in direzione della freccia (A) i freni principali e ausiliari. Premere sulla freccia (B).
(b) Controllare che i bulloni del supporto del motore d'inserimento siano inseriti negli elementi scorrevoli.

Ingranaggio intermedio di azionamento disco
2) Estrarre l'ingranaggio intermedio dall' asse dell'ingranaggio.

① Supply Sub Brake
Freno ausiliario disco di alimentazione
② Take-up Sub Brake
Freno ausiliario disco di avvolgimento
③ Supply Main Brake
Freno principale piatto di riserva nastro
④ Slider Block
Blocco di scorrimento
⑤ Reel Drive Idler
Ruota intermedia azionamento
⑥ Insert
Inserimento

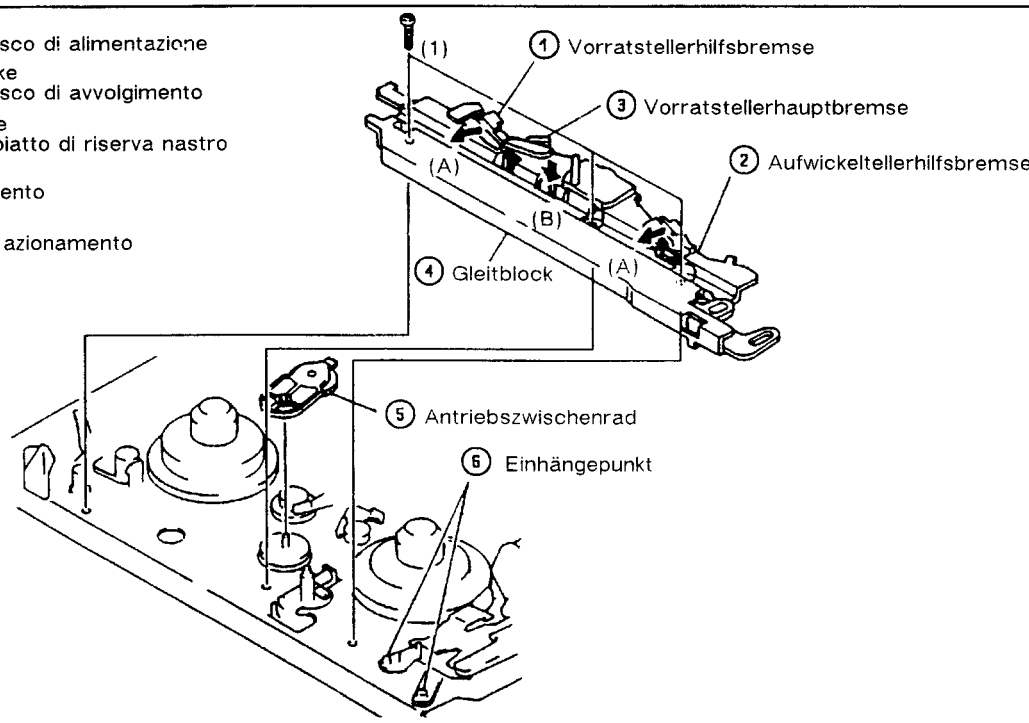


Bild 7-6 Gleitblock und Tellerantriebszwischenrad

Fig. 7-6 Slider Block and Reel Drive Idler

Fig. 7-6 Blocco di scorrimento e ruota intermedia azionamento disco

7. Vorrats-/Aufwickelteller, Zeitlupen-/Rückwärtszeitlupenbremse, Abwickel-/Aufwickelzahnradbremse, abwickel- und aufwickelseitige Hilfszahnräder (Bild 7-7)

Vorratsteller

1) Den Gleitblock entfernen. (Siehe Punkt 6)
2) Bandzughebel und Bremsband entfernen. (Siehe Punkt 5)
3) Den Vorratsteller herausnehmen.

Zur Beachtung beim Wiedereinbau:

* Kontrollieren, ob 2 Unterlegscheiben auf die Wickeltellerachse aufgesetzt sind.

Einstellungen nach dem Wiedereinbau:

* Einstellung der Bandzughebelposition und des Bandzugs
* Justage der Wickeltellerhöhe

Aufwickelteller

4) Die Aufwickelbremse vom Wickelteller in Pfeilrichtung wegbewegen.den Aufwickelteller herausziehen.

Zur Beachtung beim Wiedereinbau:

* Kontrollieren, ob die Unterlegscheibe auf die Wickeltellerachse aufgesetzt ist.

Einstellungen nach dem Wiedereinbau:

* Justage der Wickeltellerhöhe

Zeitlupen- und Rückwärtszeitlupenbremsen

5) Die Lasche lösen und die Feder entfernen.
6) Zeitlupenbremse herausnehmen.
7) Rückwärtszeitlupenbremse herausnehmen.

Aufwickel- und Abwickelzahnradbremse

8) Eine Schraube, Deckel und Feder entfernen.
9) Aufwickel- und Abwickelzwischenbremsen entfernen.

7. Supply/Take-up Reel Disks, Slow and Reverse Slow Brakes, Take-up and Supply Gear Brakes, Take-up and Supply Gears (Fig. 7-7)

Supply Reel Disk

1) Remove the slider block assembly. (See item 6)
2) Remove the tension arm and tension band. (See item 5)
3) Pull out the supply reel disk.

(Caution when reinstalling)

* Check that 2 spacers are put on the reel disk installation shaft.

(Adjustments after reinstallation)

* Tension Pole Position and Tension Adjustments
* Reel Disk Height Adjustment

Take-up Reel Disk

4) Move the take-up tension brake away from the reel disk and pull out the take-up reel disk.

(Caution when reinstalling)

* Check that a spacer is put on the reel disk installation shaft.

(Adjustments after reinstallation)

* Reel Disk Height Adjustment

Slow and Reverse Slow Brakes

5) Release the tab and remove the spring.
6) Pull out the slow brake.
7) Pull out the reverse slow brake.

Take-up and Supply Gear Brakes

8) Remove one screw, the gear bracket and the spring.
9) Pull out the take-up and supply idler brakes.

7. Piatto riserva nastro/di avvolgimento, freni rallentatore e rallentatore marcia indietro, freno QQQQ svolgimento e avvolgimento, ingranaggi ausiliari lato svolgimento e avvolgimento (Fig. 7-7)

Disco di svolgimento

1) Togliere il blocco di scorrimento (ved. punto 6)
2) Estrarre la leva di tensionamento e il freno a nastro. (vedi punto 5)
3) Estrarre il disco di svolgimento.

Attenzione nel rimontaggio:

* Controllare se sull'asse del piatto di avvolgimento sono inserite due rondelle.

Regolazioni dopo il montaggio:

* Regolare il freno a nastro e la posizione della leva di tensionamento.
* Regolare l'altezza del disco per nastro

Disco di avvolgimento

4) Spostare il freno di avvolgimento dal piatto di avvolgimento nella direzione della freccia, togliere il piatto di avvolgimento.

Attenzione nel rimontaggio:

* Verificare che la rondella sia inserita sull'asse di avvolgimento.

Regolazioni dopo il montaggio:

* Regolazione dell'altezza del disco per nastro.

Freni del rallentatore e freni del rallentatore marcia indietro

5) Staccare la staffa e la molla.
6) Estrarre il freno del rallentatore.
7) Estrarre il freno del rallentatore marcia indietro.

Freno ingranaggio avvolgimento/svolgimento

8) Smontare una vite, il coperchio e la molla.
9) Staccare i freni intermedi di avvolgimento e svolgimento.

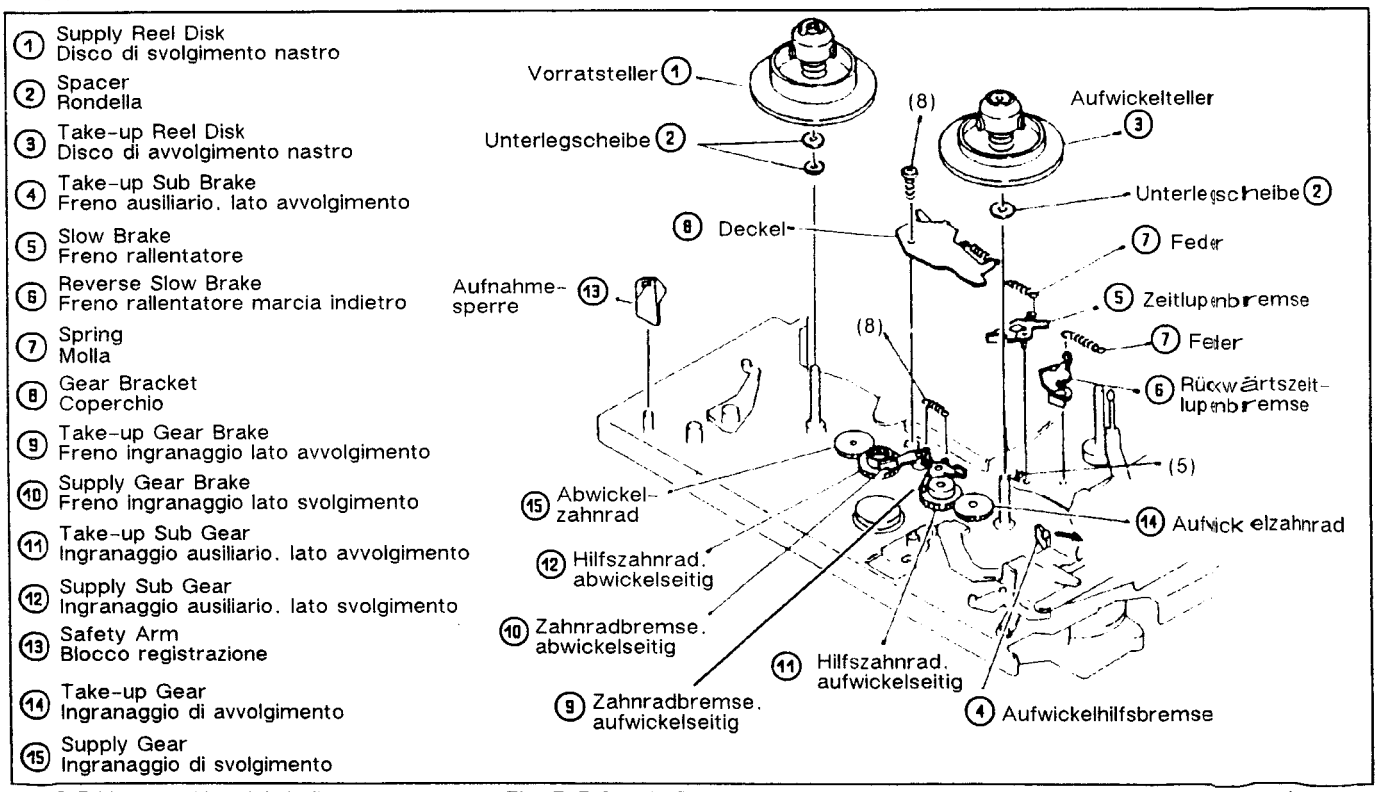


Bild 7-7 Vorrats-/Aufwickelteller

Fig. 7-7 Supply/Take-up Reel Disks

Fig. 7-7 Disco di svolgimento/avvolgimento

8. Rollen und Führungen (Bild 7-8)

Andruckrolle (komplett)

1) Eine Lasche lösen und den Cassettenverschlußöffner entfernen.
2) Die Andruckrolleneinheit herausziehen.

Zur Beachtung beim Wiedereinbau:

* Kontrollieren, ob der Stift der Andruckrolleneinheit in die Bohrung des Andruckrollenbetätigungshebels eingesetzt ist.
* Die mit dem Band in Berührung kommende Oberfläche der Andruckrolle reinigen.

Abwickelseitiger Führungsstift

3) Die Befestigungsmutter des Bandführungsstifts lösen, den Führungsstift abziehen.

Zur Beachtung beim Wiedereinbau:

* Die mit dem Band in Berührung kommende Oberfläche des Bandführungsstifts sauber halten.

Einstellungen nach dem Wiedereinbau:

* Justage der Bandführungsstifthöhe

Aufwickelseitiger Führungsstift

4) Die Befestigungsmutter des Bandführungsstifts lösen und Führungsstift abziehen.

Zur Beachtung beim Wiedereinbau:

* Die mit dem Band in Berührung kommende Oberfläche des Bandführungsstifts sauber halten.

Einstellungen nach dem Wiedereinbau:

* Justage der Bandführungsstifthöhe

Bandführungsrollen

* Abwickelseitige und aufwickelseitige Führungsrolle durch die gleiche Prozedur entfernen.

5) Die Inbusschraube der Führungsrolle lösen.
6) Bandführungsrolle entgegen dem Uhrzeigersinn drehen und herausziehen.

Einstellungen nach dem Wiedereinbau:

* Justage der Bandführungsrollenhöhe

8. Rollers and Guides (Fig. 7-8)

Pressure Roller

1) Release one tab and remove the cassette lid opener.
2) Pull out the pressure roller assembly.

(Cautions when reinstalling)

* Check that the pin of the pressure roller assembly is inserted into the hole in the pressure roller operation arm.
* Clean the tape contact surface of the pressure roller.

Supply Guide Pole

3) Loosen the guide pole retaining nut and pull out the guide pole.

(Caution when reinstalling)

* Clean the tape contact surface of the guide pole.

(Adjustments after reinstallation)

* Guide Pole Height Adjustment

Take-up Guide Pole

4) Loosen the guide pole retaining nut and pull out the guide pole.

(Caution when reinstalling)

* Clean the tape contact surface of the guide pole.

(Adjustments after reinstallation)

* Guide Pole Height Adjustment

Guide Rollers

* Remove the supply and take-up guide rollers by the same procedure.

5) Loosen the guide roller retaining hexagonal screw.
6) Turn the guide roller counterclockwise to pull it out.

(Adjustment after reinstallation)

* Guide Roller Height Adjustment

8. Rulli e perni di guida nastro (Fig. 7-8)

Rullo pressore (completo)

1) Allentare una linguetta e togliere l'apricassetta.
2) Estrarre il gruppo dei rulli di pressione.

Attenzione nel rimontaggio:

* Verificare che il perno del rullo pressore sia inserito nel foro della leva comando.
* Pulire la superficie del rullo a contatto con il nastro.

Perno guida nastro, lato svolgimento

3) Svitare il dado di fissaggio del perno ed estrarre il perno.

Attenzione nel rimontaggio:

* Pulire la superficie del perno di guida nastro a contatto con il nastro.

Regolazioni dopo il montaggio:

* Regolazione dell'altezza del perno guida nastro.

Perno guida nastro, lato avvolgimento

4) Svitare il dado di fissaggio del perno ed estrarre il perno.

Attenzione nel rimontaggio:

* Pulire la superficie del perno di guida nastro a contatto con il nastro.

Regolazioni dopo il montaggio:

* Regolazione dell'altezza del perno guida nastro.

Rulli guida nastro

* Togliere con la stessa procedura il rullo di guida sul lato avvolgimento e svolgimento.

5) Svitare la vite brugola del rullo di guida.
6) Per lo smontaggio, girare i rulli guida nastro in senso antiorario.

Regolazioni dopo il montaggio:

* Regolare l'altezza dei rulli guida nastro.

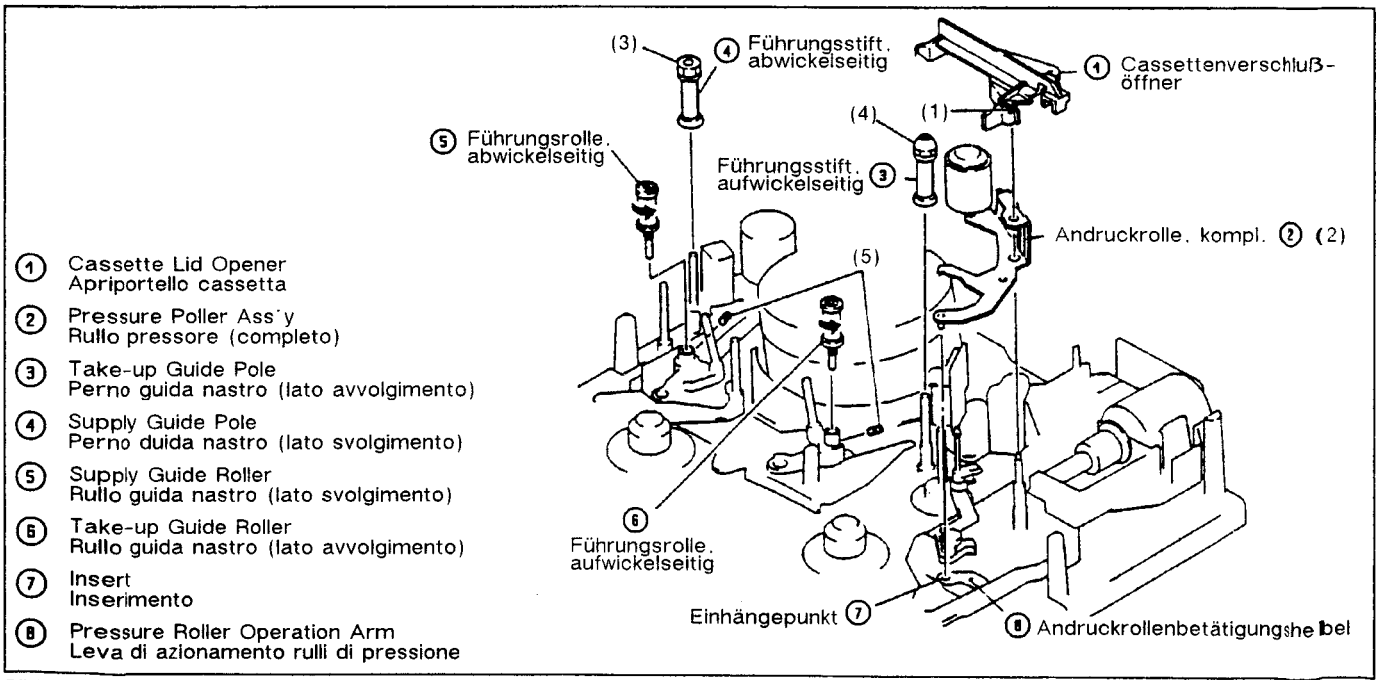


Bild 7-8 Rollen und Führungsstifte | Fig. 7-8 Rollers and Guides | Fig. 7-8 Rulli e perni guida nastro

9. Einfädelmotorblock, Bremsgestängehebel, FS-Bremshebel, Verriegelungshebel (Bild 7-9)

Einfädelmotorblock

1) Eine Lasche lösen und den Cassettenverschlußöffner entfernen.
2) Die Steckverbindung von der Leiterplatte des Einfädelmotors abziehen.
3) Zwei Schrauben entfernen und 3 Laschen lösen.
4) Fädelmotor und Motorhalterung entfernen.

Einstellungen nach dem Wiedereinbau:

* Justage des Laufwerkstatusschalters

Bremsgestängehebel

5) Den Gleitblock entfernen. (Siehe Punkt 6)
6) Den Aufwickelteller entfernen. (Siehe Punkt 7)
7) Die Feder zwischen Bremsgestängehebel und Fädelmotorträger entfernen.
8) Den Bremsgestängehebel entfernen.

FS-Bremshebel

9) Die Feder zwischen dem FS-Bremshebel und dem Laufwerkchassis entfernen.
10) Eine Lasche lösen und den FS-Bremshebel herausziehen.

Verriegelungshebel

11) Eine Lasche lösen und den Verriegelungshebel herausziehen.

9. Load Block Ass'y, Brake Link Arm, FS Brake Arm, Latch Arm (Fig. 7-9)

Loading Motor Block

1) Release one tab and remove the cassette lid opener.
2) Disconnect the connector from the loading motor circuit board.
3) Remove 2 screws and release 3 tabs.
4) Remove the loading motor and motor holder.

(Adjustment after reinstallation)

* Mechanism State Switch Adjustment

Brake Link Arm

5) Remove the slider block. (See item 6)
6) Remove the take-up reel disk. (See item 7)
7) Remove the spring between the brake link arm and load bracket assembly.
8) Remove the brake link arm.

FS Brake Arm

9) Remove the spring between the FS brake arm and mechanism chassis.
10) Release one tab and pull out the FS brake arm.

Latch Arm

11) Release one tab and pull out the latch arm.

9. Blocco motore inserimento nastro, leva tiranteria freno, leva del freno FS, leva di blocco (Fig. 7-9)

Blocco motore inserimento

1) Allentare una linguetta e togliere l'apricassetta.
2) Estrarre il connettore dalla piastra del motore di inserimento nastro.
3) Svitare le 2 viti e sbloccare 3 linguette.
4) Staccare il motore di inserimento nastro e il fissaggio.

Regolazioni dopo il rimontaggio:

* Registrazione dell'interruttore di stato dell'unita' di trasporto.

Leva tiranteria freno

5) Toglierte il blocco di scorrimento (ved. punto 6).
6) Estrarre il disco di avvolgimento. (vedi punto 7)
7) Togliere la molla che si trova fra la leva della tiranteria del freno e il supporto del motore d'inserimento.
8) Togliere la leva della tiranteria del freno.

Leva del freno FS

9) Smontare la molla fra leva freno FS e telaio.
10) Sbloccare una linguetta ed estrarre la leva del freno FS.

Leva di blocco

11) Staccare una staffa ed estrarre la leva di blocco.

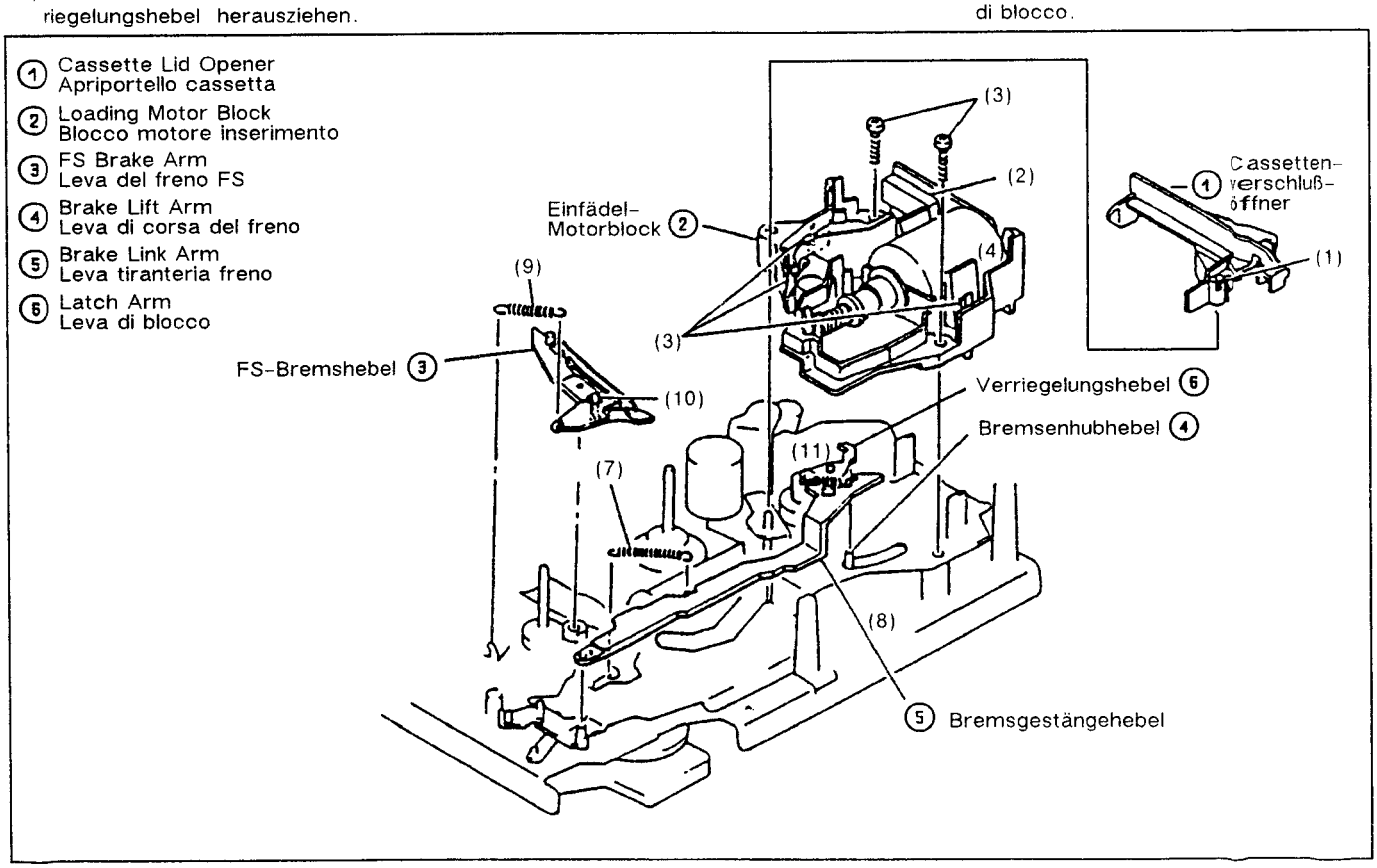


Bild 7-9 Einfädelmotorblock

Fig. 7-9 Loading Motor Block

Fig. 7-9 Blocco motore inserimento

10. Fädelmotorträger, Umlenkstift, Aufwickelbremse, (Bild 7-10)

Fädelmotorträger (Bild 7-10)

1) Gleitblock entfernen. (sh. Punkt 6)
2) Aufwickelteller entfernen (sh. Punkt 7)
3) Andruckrolleneinheit entfernen. (sh. Punkt 8)
4) Einfädelmotorblock entfernen. (siehe Punkt 9)
5) Bremsgestängehebel entfernen. (sh. Punkt 9)

Zur Beachtung beim Entfernen:

6) Schraube entfernen: das Schneckenrad entgegen dem Uhrzeigersinn drehen, damit der Hubhebel so lange in Pfeilrichtung bewegt wird, bis sich die Führungsrollen in eingefädelter Position befinden.
   Zapfen des Einfädelzahnrads aus dem Hubhebelloch ziehen. Kompletten Fädelmotorträger beim Herausnehmen anheben.

Aufwickelbremse (Bild 7-10)

7) Lasche lösen. Bremse entfernen.

Umlenkstift (Bild 7-10)

8) Sorgsam die Feder vom Umlenkhebelanschlag und Flansch ablösen: Umlenkstift abziehen.

Vorsicht beim Wiedereinbau:

* Umlenkstift so auf dem Fädelmotorträger einsetzen, daß die Hebelfeder nicht beschädigt wird!
* Nach dem Umlenkstifteinbau wird der Videorecorder in den "Wiedergabebetrieb ohne geladene Cassette" versetzt (sh. Punkt 9 Seite 1-60).
* Umlenkstift in EJECT-Stellung schieben und vorsichtig loslassen. Prüfen, ob der Umlenkstift einwandfrei durch die Feder losgelöst wird und in die Stellung zurückkehrt, in der der Stift in nahem Kontakt zum Chassis steht.

10. Load Bracket Assembly, Drawer Pin, Take-up Brake Ass'y

Load Bracket Assembly (Fig. 7-10)

1) Remove the slider block.
2) Remove the take-up reel disk.
3) Remove the pressure roller.
4) Remove the loading motor block.
5) Remove the brake link arm.

Caution when removing.

6) Remove the screw and turn the worm wheel counterclockwise to move the lift arm in the direction of the arrow until the guide rollers are in the loaded positions.
   Pull the boss of the loading slide gear out of the hole in the lift arm and lift the load bracket assembly up to remove it.

Take-up Brake (Fig. 7-10)

7) Release one tab and remove the take-up brake.

Drawer Pin (Fig. 7-10)

8) Disengage carefully the drawer spring from the drawer arm stop and drawer arm flange and pull out the drawer arm/drawer pin.

Caution when reinstallation

* Attach the drawer pin to the load bracket assembly so the drawer spring is not damaged.
* After attaching the drawer pin, set the VTR to the play mode without loading a cassette (see item 9 on page 1-60)
* Lift the drawer pin slightly in the EJECT mode and release it slowly. Check that the drawer pin is lowered by the drawer spring firmly and is returned to the state in which it is in close contact with the chassis.

10. Supporto motore inserimento nastro e freno disco avvolgimento

Supporto motore inserimento nastro

1) Togliere il blocco di scorrimento (ved. punto 6).
2) Estrarre il disco di avvolgimento. (vedi punto 7)
3) Togliere l'unita' di rulli di pressione (vedi punto 8)
4) Estrarre il blocco motore inserimento nastro. (vedi punto 9)
5) Togliere la leva della tiranteria del freno (ved. punto 9).

Da tener presente quando si toglie:

6) Togliere la vite. Girare la chiocchiola in senso antiorario in modo da muovere la leva di alzata in direzione della freccia fino a che i rulli di guida si trovano in posizione di nastro inserito.
   Estrarre il perno dell'ingranaggio d'inserimento nastro dal foro nella leva di alzata. Sollevare il supporto completo del motore di inserimento nastro durante l'estrazione.

Freno avvolgimento (Fig. 7-10)

7) Staccare la staffa e il freno.

Perno di rinvio (Fig. 7-10)

8) Staccare con cautela la molla dall'arresto della leva di rinvio e dalla flangia. Estrarre il perno di rinvio.

Attenzione al montaggio:

* Inserire il perno di rinvio sul supporto del motore d'inserimento di nastro in modo da non danneggiare la molla.
* Dopo il montaggio del perno di rinvio,il videoregistratore si imposta su "funzionamento di riproduzione senza cassetta" (vedere punto 9 a pag. 1-60).
* Spostare il perno di rinvio in posizione EJECT e rilasciarlo lentamente. Controllare che il perno di rinvio sia rilasciato dalla molla e torni nella posizione di leggere contatto con il telaio.

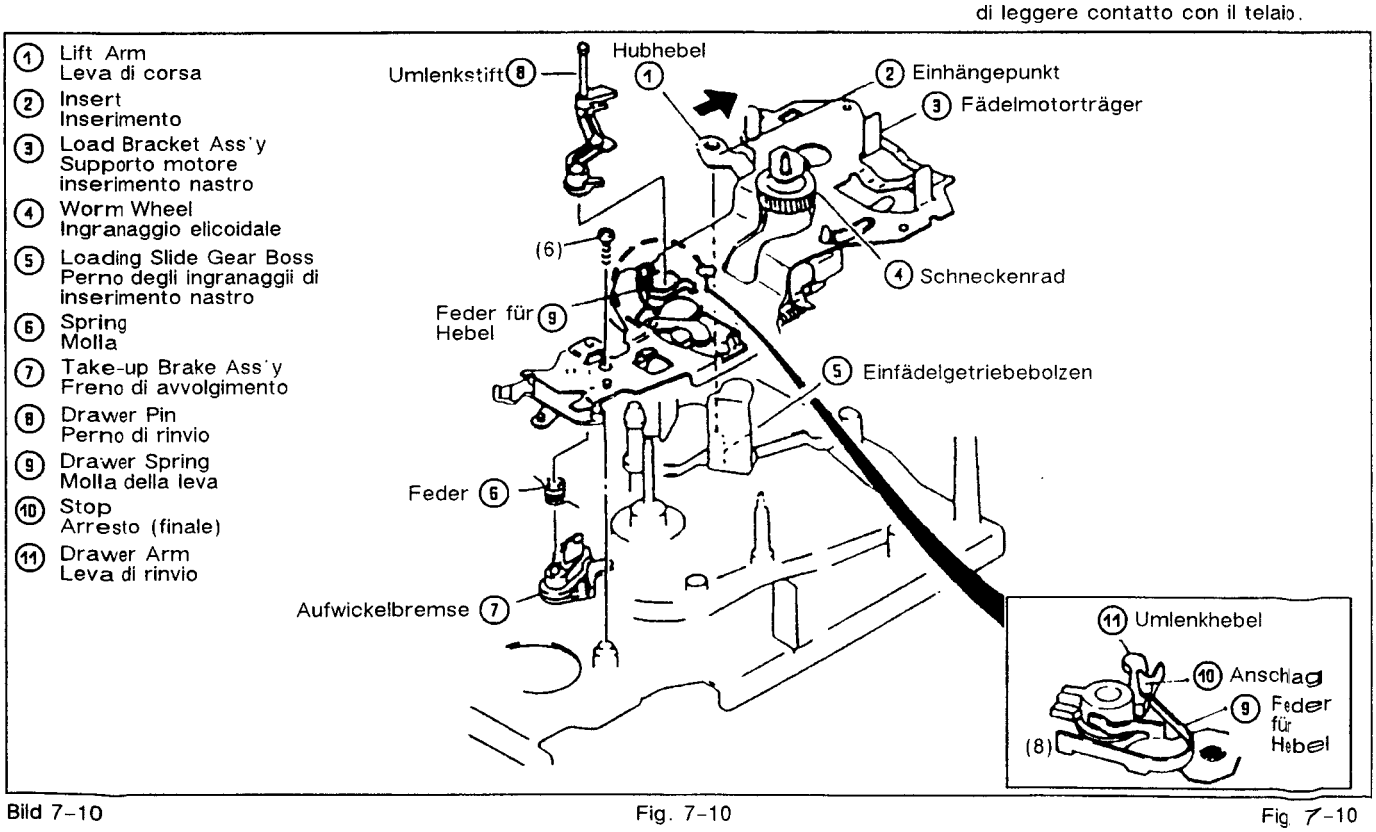


Bild 7-10 | Fig. 7-10 | Fig 7-10

* Die Komponenten in Punkt 11 unten werden beschrieben, als ob der Fädelmotorträger schon entfernt worden ist.

11. Bremsenbetätigungshebel, Steuerkurvenrad A/B, Schneckenrad, Andruckrollenbetätigungshebel, Funktionssteuerhebel und Bremshubhebel (Bild 7-11)

Bremsenbetätigungshebel

1) Die Fixierscheibe entfernen und den Bremsenbetätigungshebel herausziehen.

Steuerkurvenrad

2) Den Hubhebel herausziehen.
3) Die Fixierscheibe entfernen.
4) Das Steuerkurvenrad herausziehen.

Schneckenrad

5) Das Schneckenrad herausziehen.

Andruckrollenbetätigungshebel, Funktionssteuerhebel

6) Die Feder zwischen Andruckrollenbetätigungshebel und Einfädelmotorträger entfernen.
7) Den Andruckrollenbetätigungshebel herausziehen.
8) Eine Lasche lösen und den Funktionssteuerhebel herausziehen.

Bremshubhebel

9) Den Bremshubhebel herausziehen.

* Components in item 11 below will be described as if the load bracket assembly has already been removed.

11. Brake Operation Arm, Mode Gear A, Mode Gear B, Worm Wheel, Pressure Roller Operation Arm, Mode Change Arm and Brake Lift Arm (Fig. 7-11)

Brake Operation Arm

1) Remove the washer and pull out the brake operation arm.

Mode Gear

2) Pull out the lift arm.
3) Remove the washer
4) Pull out the mode gear.

Worm Wheel

5) Pull out the worm wheel.

Pressure Roller Operation Arm, Mode Change Arm

6) Remove the spring between the pressure roller operation arm and load bracket.
7) Pull out the pressure roller operation arm.
8) Release one tab and pull out the mode change arm.

Brake Lift Arm

9) Pull out the brake lift arm.

* I componenti del punto 11 vengono descritti tenendo conto che sia già stato smontato il supporto del motore d'inserimento.

11. Leva comando freno, disco a curve A/B, ingranaggio elicoidale, leva azionamento rullo pressore, leva comando funzioni e leva corsa freno (Fig. 7-11)

Leva comando freno

1) Smontare la rondella di fissaggio ed estrarre la leva di comando freno.

Disco a curve

2) Rimuovere la leva di corsa.
3) Smontare la rondella di fissaggio.
4) Sfilare il disco a curve.

Ingranaggio elicoidale

5) Estrarre l'ingranaggio elicoidale.

Leva azionamento rullo pressore, leva comando funzioni

6) Smontare la molla fra la leva di comando del rullo pressore ed il supporto motore inserimento nastro.
7) Estrarre la leva di comando rullo pressore.
8) Sbloccare la linguetta e rimuovere la leva comando funzioni.

Leva corsa freno

9) Estrarre la leva corsa freno.

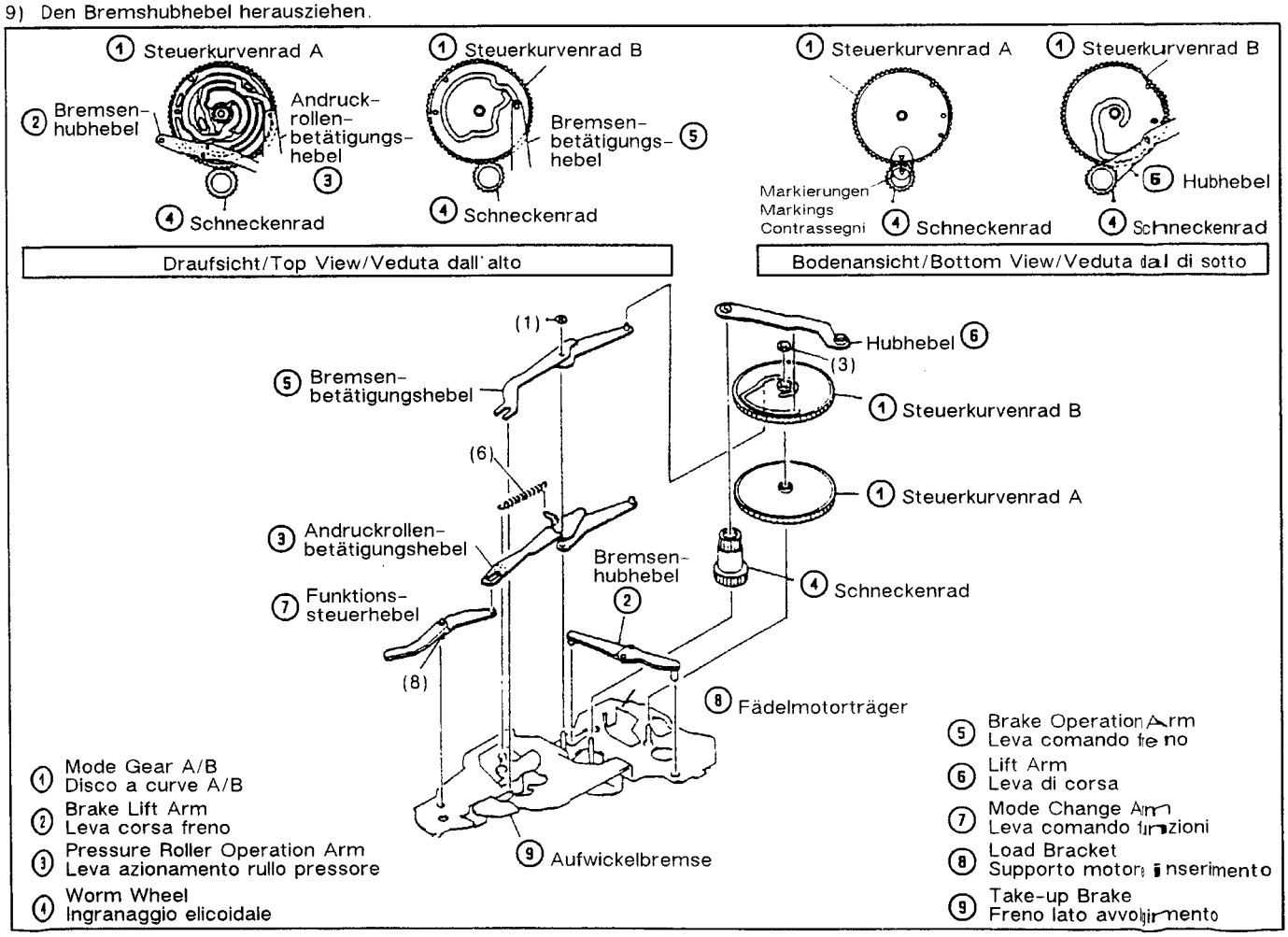


Bild 7-11 Steuerkurvenrad und Hebel | Fig. 7-11 Mode Gear and Arms | Fig. 7-11 Disco a curve e leve

12. Trommelmotorgrundplatte und abwickel-/aufwickelseitiger Einfädelhebel (Bild 7-12)

Trommelmotorgrundplatte

1) Die Cassettenlademechanik entfernen.
2) Die Trommelmotoreinheit entfernen.
3) Die 3 Schrauben entfernen und die Trommelmotorgrundplatte herausnehmen.

Abwickel-/aufwickelseitige Einfädelhebel (Bild 7-12)

4) Eine Schraube entfernen.
5) Eine Lasche lösen und die Führungsbasis-Einspannplatte mit den darauf montierten Bandführungsrollen entfernen.
6) Eine Lasche lösen und den aufwickelseitigen Einfädelhebel entfernen.
7) Den abwickelseitigen Einfädelhebel entfernen.

12. Cylinder Motor Base and Supply/Take-up Loading Arms (Fig. 7-12)

Cylinder Motor Base

1) Remove the cassette loading mechanism.
2) Remove the cylinder motor assembly.
3) Remove 3 screws and take out the cylinder motor base.

Supply/Take-up Loading Arms (Fig. 7-12)

4) Remove one screw.
5) Release one tab and remove the guide base clamp plate with the supply/take-up guide rollers assembled on it.
6) Release one tab and remove the take-up loading arm.
7) Remove the supply loading arm.

12. Piastra base del motore del tamburo e leva d'inserimento dal lato di svolgimento/avvolgimento

Piastra base del motore del tamburo

1) Togliere il meccanismo di caricamento cassetta.
2) Togliere il gruppo contenente il motore del tamburo.
3) Togliere le 3 viti ed estrarre la piastra base del motore del tamburo.

Leve di inserzione nastro lato svolgimento/avvolgimento

4) Eliminare una vite.
5) Sbloccare una linguetta ed estrarre la piastra di fissaggio della base guide con i rulli guida nastro.
6) Sbloccare la linguetta e smontare la leva di inserimento nastro lato svolgimento.
7) Estrarre la leva di inserimento nastro lato avvolgimento.

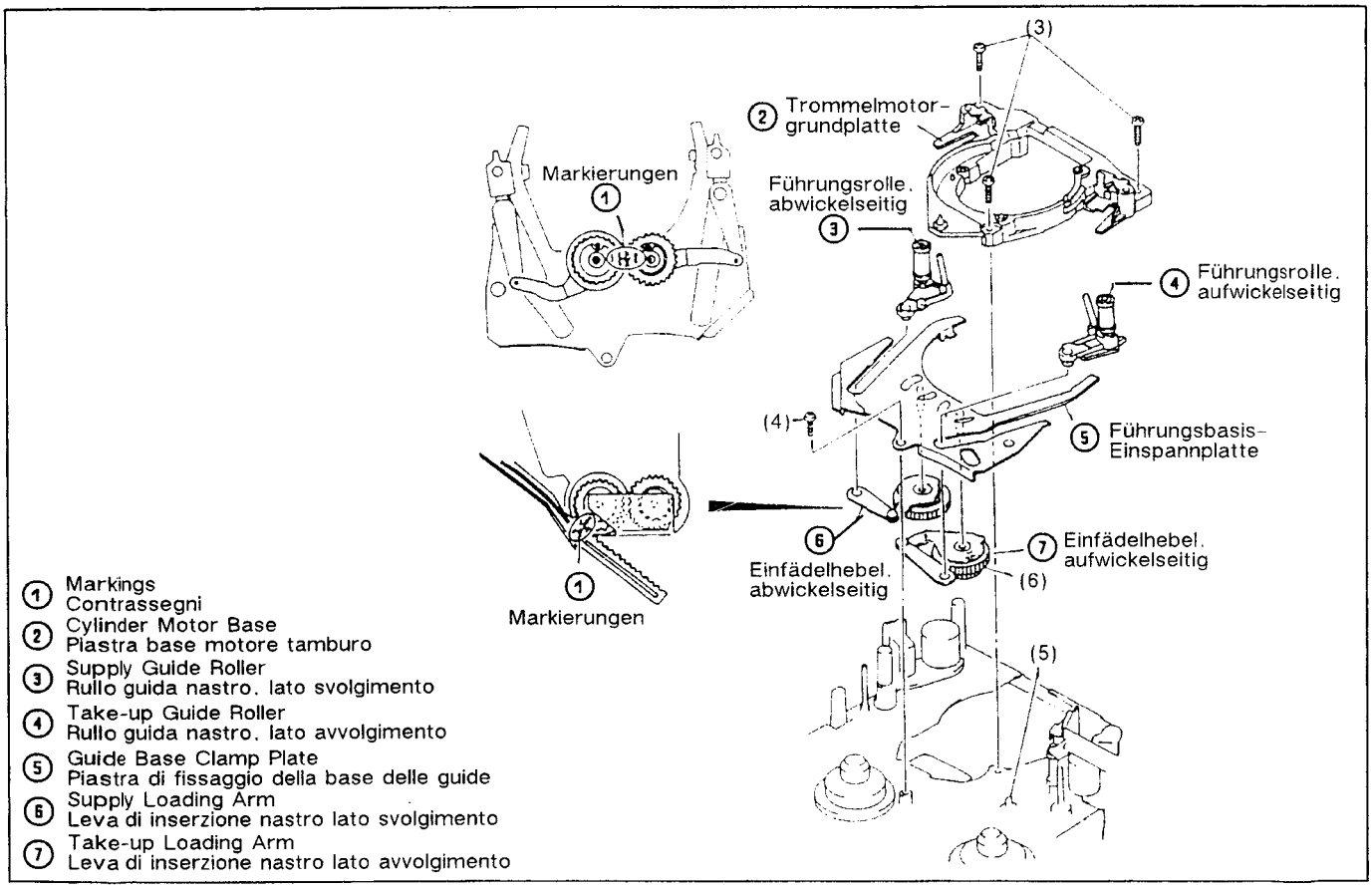


Bild 7-12 Grundplatte, Hebel

Fig. 7-12 Motor Base, Arms

Fig. 7-12 Piastra base, leve

13. Aufwickelriemenscheibe und Kupplungsgetriebebaugruppe (Bild 7-13)

Aufwickelriemenscheibe

1) Eine Schraube und den Kupplungsgetriebehalter entfernen.
2) Den Wickeltellerriemen entfernen.
3) Die Fixierscheibe entfernen und die Aufwickelriemenscheibe entfernen.

Kupplungsgetriebebaugruppe

4) Den Gleitblock und das Wickeltellerantriebszwischenrad entfernen.
5) Den Wickeltellerriemen in Schritt 2) entfernen und die Schrauben lösen.

13. Take-up Pulley and Clutch Base Assembly (Fig. 7-13)

Take-up Pulley (Fig. 7-13)

1) Remove one screw and the clutch base holder.
2) Release the reel belt.
3) Remove the washer and pull out the take-up pulley.

Clutch Base Assembly (Fig. 7-13)

4) Remove the slider block and reel drive idler.
5) Remove the reel belt in step 2) and remove the screws.

13. Puleggia lato avvolgimento e ingranaggi giunto di trasmissione (Fig. 7-13)

Puleggia lato avvolgimento

1) Togliere una vite ed il contenitore dell'accoppiatore.
2) Estrarre la cinghia del disco di avvolgimento.
3) Smontare la rondella di fissaggio e sfilare la puleggia.

Ingranaggi giunto di trasmissione

4) Togliere il blocco di scorrimento e l'ingranaggio intermedio di azionamento del disco di avvolgimento.
5) Smontare la cinghia del piatto di avvolgimento. passo 2). e svitare le viti.

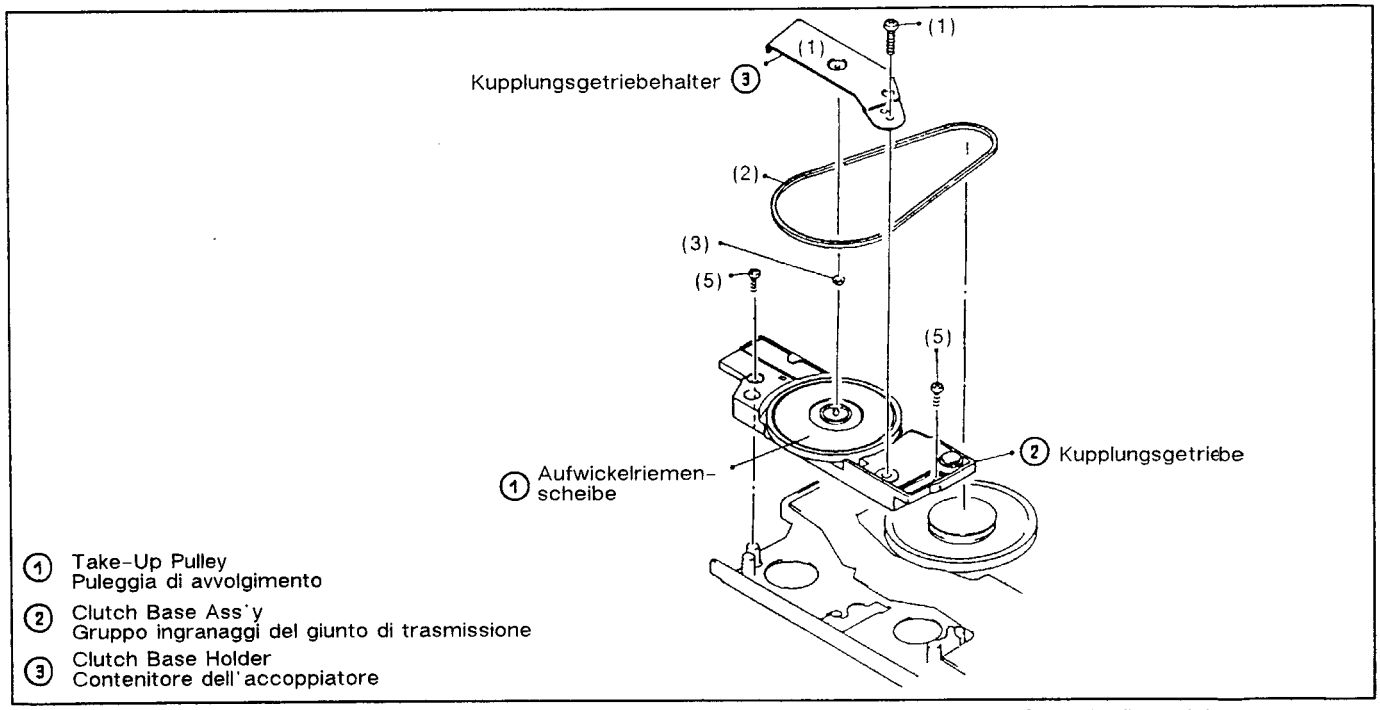


Bild 7-13 Aufwickelriemenscheibe. Kupplungsgetriebe

Fig. 7-13 Take-up Pulley. Clutch Gear Ass'y

Fig. 7-13 Puleggia di avvolgimento. gruppo ingranaggi del giunto di trasmissione

14. Aufwickelzahnrad, Schalthebel, Schaltzahnrad, Zwischenzahnrad, FL-Schaltzahnrad und FL-Schalthebel (Bild 7-14)

1) Die Cassettenlademechanik entfernen.
2) Den Gleitblock und das Wickeltellerantriebszwischenrad entfernen.
3) Die Kupplungsgetriebebaugruppe entfernen.

Aufwickelzahnrad

4) Die Fixierscheibe entfernen und das Aufwickelzahnrad herausziehen.

Schalthebel, Schaltzahnrad

5) Das Aufwickelzahnrad entfernen.
6) Den Schalthebel entfernen.
7) Die Fixierscheibe entfernen und das Schaltzahnrad herausziehen.

Zwischenzahnrad

8) Eine Lasche lösen und das Zwischenzahnrad herausziehen.

FL-Schaltzahnrad, FL-Schalthebel

9) Kappe, Feder und Unterlegscheibe entfernen; dann das FL-Schaltzahnrad herausziehen.
10) Die 2 Laschen lösen und den FL-Schalthebel entfernen.

14. Take-up Gear, Change Arm, Change Gear, Relay Gear, FL Change Gear and FL Change Lever (Fig. 7-14)

1) Remove the cassette loading mechanism.
2) Remove the slider block and reel drive idler.
3) Remove the clutch base assembly.

Take-up Gear

4) Remove the washer and pull out the take-up gear.

Change Arm, Change Gear

5) Remove the take-up gear.
6) Remove the change arm.
7) Remove the washer and pull out the change gear.

Relay Gear

8) Release one tab and pull out the relay gear.

FL Change Gear, FL Change Lever

9) Remove the cap, spring and washer and pull out the FL change gear.
10) Release 2 tabs and remove the FL change lever.

14. Ingranaggio di avvolgimento, leva di commutazione, ingranaggio di commutazione, ingranaggio intermedio, ingranaggio di commutazione FL e leva di commutazione FL (Fig. 7-14)

1) Smontare il gruppo meccanico caricamento cassetta.
2) Togliere il blocco di scorrimento e l'ingranaggio intermedio di azionamento del disco di avvolgimento .
3) Estrarre gli ingranaggi del giunto.

Ingranaggio di avvolgimento

4) Smontare la rondella di fissaggio ed estrarre l'ingranaggio di avvolgimento.

Leva di commutazione, ingranaggio di commutazione

5) Estrarre l'ingranaggio di avvolgimento.
6) Estrarre la leva di commutazione.
7) Smontare la rondella di fissaggio e sfilare l'ingranaggio di commutazione.

Ingranaggio intermedio

8) Allentare una linguetta ed estrarre l'ingranaggio interrmedio.

Ingranaggio di commutazione FL, leva di commutazione FL

9) Rimuovere il coperchietto, la molla e la rondella, poi estrarre l'ingranaggio FL.
10) Sbloccare le 2 linguette ed estrarre la leva di commutazione FL.

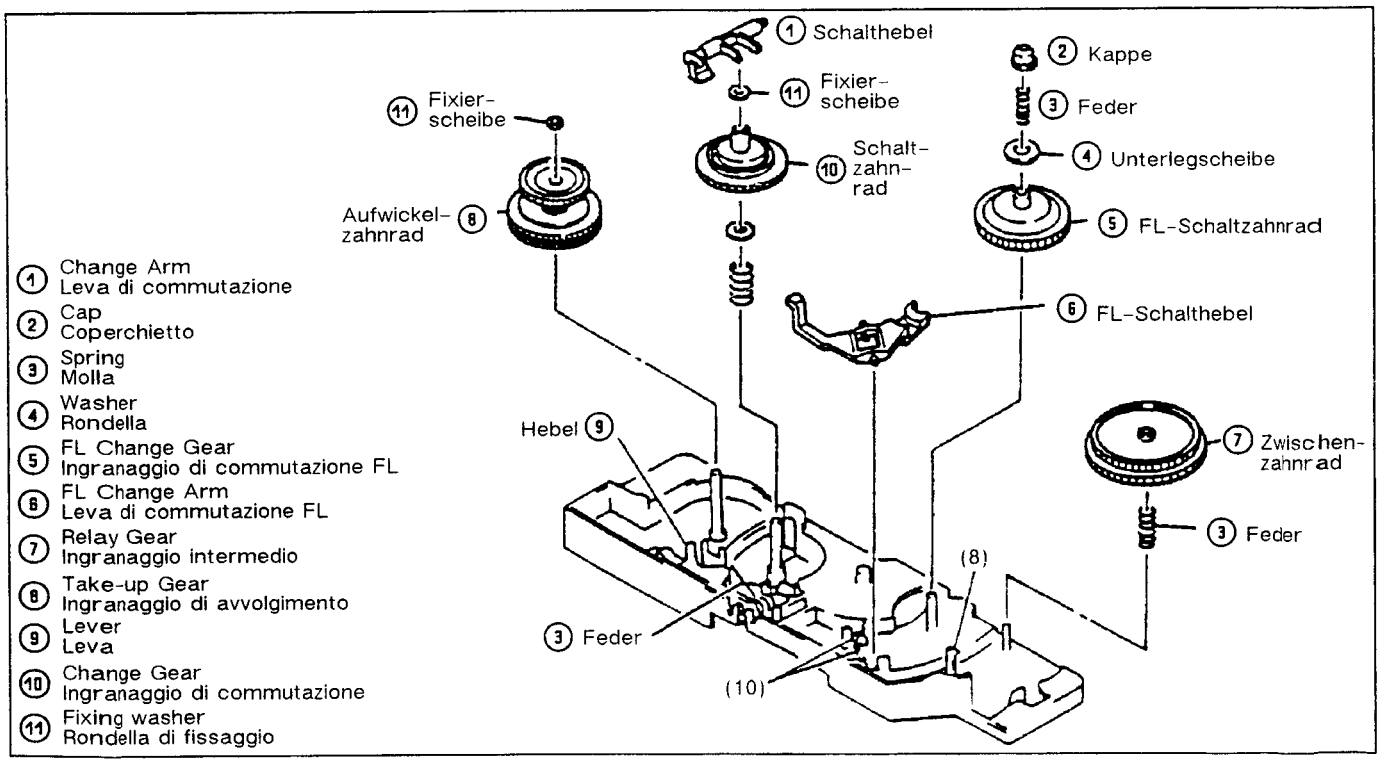


Bild 7-14 Kupplungsgetriebe, demontiert

Fig. 7-14 Clutch Base Ass'y, disassembled

Fig. 7-14 Ingranaggi giunto di trasmissione, smontata

7. Montage der Rotormagnetscheibe am Kopftrommelmotor

Wird die Rotormagnetscheibe bei Reparaturen entfernt oder ausgetauscht, muß diese unter Beachtung der nachfolgenden Punkte korrekt montiert werden.
Zur Beachtung bei der Montage:

* Die auf dem Rotor des Trommelmotors montierte Rotormagnetscheibe ist mit Magentpolen ausgestattet (siehe Bild unten, obere Zeichnung). Wird die Scheibe verkehrt montiert, funktioniert der Videorecorder nicht normal. Die Scheibe laut nachfolgender Prozedur montieren.

Montagevorgang:

* Die Rotormagnetscheibe und der Rotor weisen Bohrungen auf. Die Rotormagnetscheibe so anbringen, daß Loch A in der Scheibe und Loch B im Rotor quer zu den Schraubenbohrungen liegen.

7. Attaching the Rotor Magnet Plate to the Cylinder Motor

When the rotor magnet plate is removed for repairs or it is replaced, reinstall it correctly observing the following caution item.
(Caution on installation)

* The rotor magnet plate attached to the base of the cylinder motor (illustrated as the top in the figure below) is equipped with magnetic poles. If it is attached in reverse, the VTR will not operate normally. Attach it correctly following the procedure below.

(How to attach)

* There are holes in the rotor magnet plate and cylinder plate attaching bracket. Attach the rotor magnet plate so that hole (A) in the plate and hole (B) in the bracket across from the screw holes.

7. Montaggio del disco magnetico del rotore sul motore del tamburo portatestine

Se, in caso di riparazioni, si smonta o sostituisce il disco magnetico del rotore, lo si deve montare correttamente tenendo conto dei seguenti punti.
Da osservare al momento del montaggio:

* Il disco magnetico montato sul motore del tamburo e' munito di poli magnetici (ved. fig. in basso, disegno in alto). Se il disco viene montato erratamente, il videoregistratore non funziona in modo normale. Montare il disco seguendo il seguente procedimento.

Procedura di montaggio:

* Sul disco magnetico e sul rotore sono previsti dei fori. Applicare il disco magnetico disponendo il foro A del disco e il foro B del rotore trasversalmente ai fori delle viti.

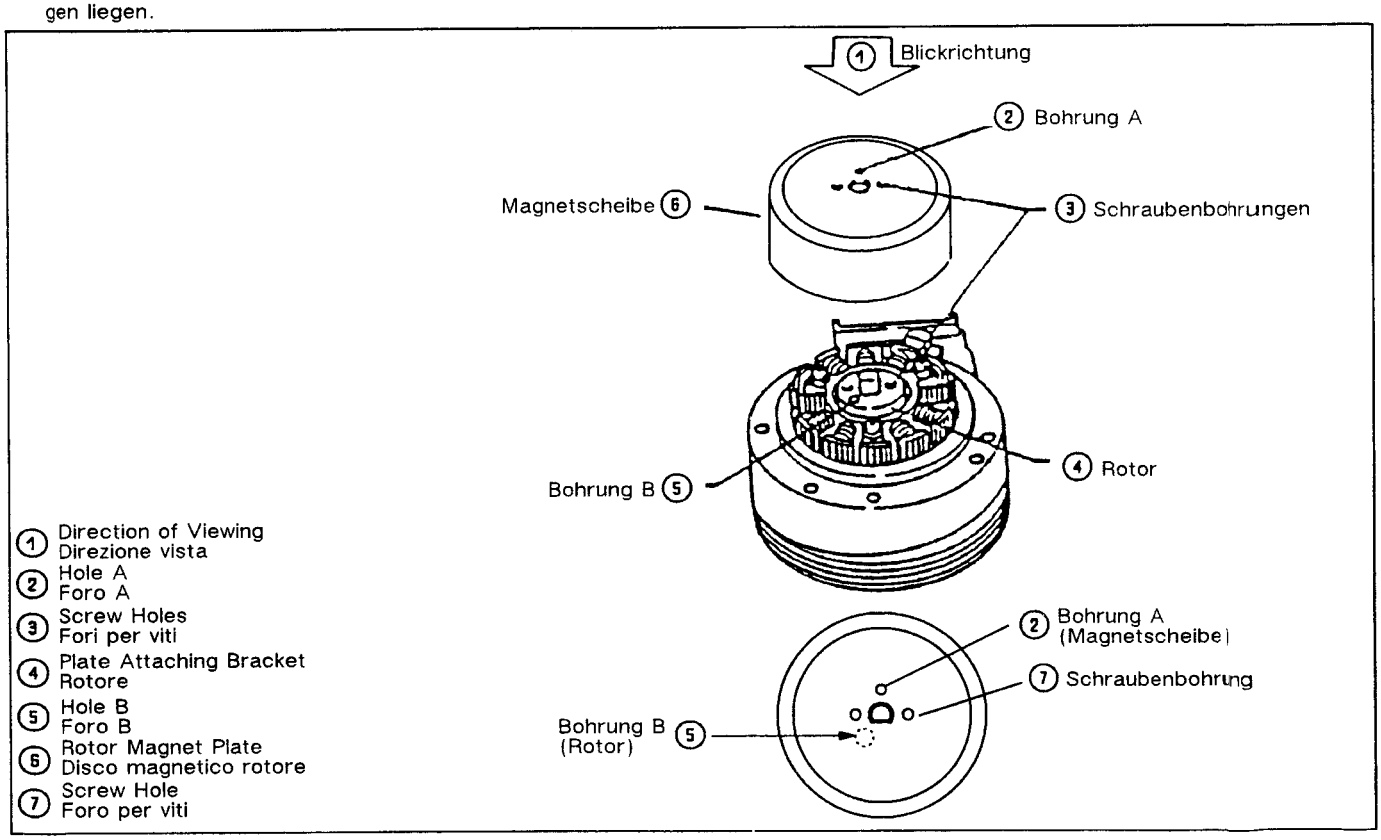


Bild 7-15 Montageposition der Rotormagnetscheibe

Fig. 7-15 Rotor Magnet Plate Attachment Position

Fig. 7-15 Posizione di montaggio del disco magnetico del rotore

ELEKTR. SCHALTKREISE

Für den Abgleich notwendige Testgeräte und Bänder:

1) Oszilloskop (2-Kanal)
2) Farbbalkengenerator
3) Elektrisches Multimeter
4) DC-Voltmeter
5) Frequenzzähler
6) NF-Generator
7) Farbfernsehgerät
8) Abgleichband (MH-2)
9) HiFi-Abgleichband 36HMAFE-3-1
10) Leercassette

Zur Beachtung beim Abgleich

1) Wenn nichts anderes angegeben ist, dann wird der Abgleich unter folgenden Bedingungen durchgeführt:
   * Oszilloskoptastkopf: 10:1
   * Synchronisation: INTERNAL SYNC
   * Meßgerätemasse: TP602 (GND) auf der Hauptleiterplatte.
2) Sofern keine speziellen Anweisungen bestehen, wird mit einem S-VHS-Band im S-VHS-Betrieb aufgenommen.
3) Wird mehr als ein Abgleich durchgeführt, muß das in der beschriebenen Reihenfolge durchgeführt werden.

Resetting des Timer-Mikroprozessors

Der Timer-Mikroprozessor kann nicht zurückgesetzt werden, wenn die Netzleitung vom Netz abgesteckt wurde, da dessen Stromversorgung durch eine Backup-Schaltung aufrecht erhalten wird. Reset erfolgt durch Drücken der Taste S701 auf der Timer-Leiterplatte (nach Abnahme der Frontblende: siehe Bild).

ELECTRICAL CIRCUITS

Test equipment and tapes necessary for adjustment.

1) Dual-trace oscilloscope
2) Colour bar generator
3) VTVM
4) DC voltmeter
5) Frequency counter
6) CR Oscillator
7) Monitor TV
8) Alignment tape MH-2
9) Hi-Fi Alignment tape (36HMAFE-3-1)
10) Blank tape

Cautions on adjustments

1) If there are no special instructions, the following conditions apply:
   * Oscilloscope probe: 10:1
   * Oscilloscope synchronization: INTERNAL SYSNC
   * Earth of test equipment: TP602 (GND) on the main board.
2) If there are no special instructions, record on a S-VHS tape in the S-VHS mode.
3) When making more than one adjustment, make adjustments in the order listed.

Resetting the timer microprocessor

The timer microprocessor cannot be reset when the mains lead is unplugged from the AC outlet as its power is backed up by a backup circuit. Press switch S701 on the timer circuit board to reset it (with the front panel removed: see Fig.).

CIRCUITI ELETTRICI

Strumenti e nastri

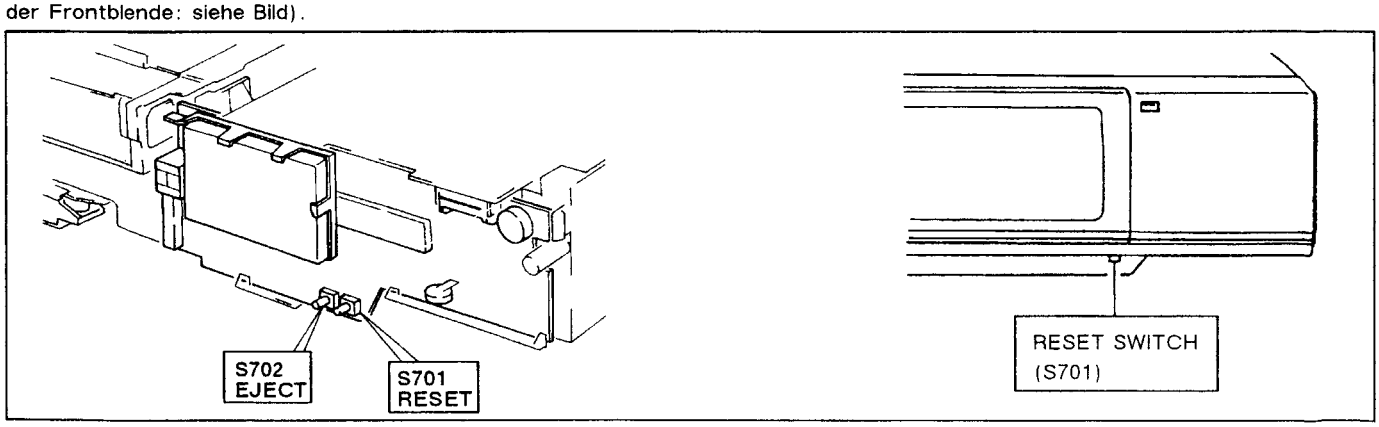
1) Oscilloscopio (due canali)
2) Generatore di barre a colori
3) Multimetro elettronico
4) Voltmetro DC
5) Frequenzometro
6) Generatore BF
7) Televisore a colori
8) Nastro di taratura MH-2
9) Nastro di taratura 36HMAFE-3-1
10) Nastro vuoto

Da osservare nell'allineamento

1) Nel caso non venga indicato nient'altro, l'allineamento va svolto alle seguenti condizioni:
   * Testa testatrice (oscilloscopio): 10:1
   * Sincronizzazione: INTERNAL SYNC
   * Massa apparecchi di misura: TP602 (GND) sulla piastra principale.
2) Se non sono date istruzioni particolari, si effettua la registrazione su nastro S-VHS in funzionamento S-VHS.
3) Se vine eseguito piu' di un allineamento, questo deve venire eseguito nella successione descritta.

Resetting del microprocessore del timer

Il microprocessore del timer non puo' essere resettato se il cavo di rete e' staccato, perche' l'alimentazione e' assicurata da un circuito di backup. Il reset si effettua premendo il tasto S701 sulla piastra del timer (dopo aver smontato il pannello frontale, vedere la figura).



Service-Stellungen

Einstellungen auf der Hauptleiterplatte. Audio- und Y/C Interface-Leiterplatte können grundsätzlich bei abgenommenem Gehäuseoberteil und Bodenabdeckung erfolgen, auch wenn der VTR nicht in der Sevice-Position steht.

Einstellungen der Y/Chroma- und OSD-Leiterplatten:

1) Gehäuseoberteil, Bodenabdeckung und Frontblende entfernen.
2) Funktionstasten- und Timer-Leiterplatten herausklappen und die gesamte Hauptleiterplatte herausheben.
3) Eine isolierende Abdeckung auf den Laufwerksblock legen und darauf die Hauptleiterplatte absetzen.

Zur Beachtung:

Befindet sich der VTR in Service-Stellung, ist eine Bedienung des VTR mit dessen Funktionstasten (hinter der Frontblende) nicht mehr möglich. Zur Bedienung des VTR die Fernbedienung benutzen. Der Cassettenauswurf kann durch Druck auf die Taste **S702 (EJECT)** auf der Timer-Leiterplatte durchgeführt werden.

Einstellung der Y/C Separate-Leiterplatte:

1) Die Seite des Videorecorders mit dem Laufwerksteil nach unten absetzen.

Service Positions

Adjustments on main, audio and Y/C interface circuit boards can basically be done with the top and bottom covers removed even when the VTR is not set in the servicing position.

Y/Chroma and OSD circuit boards adjustments:

1) Remove the top and bottom covers and the front panel.
2) Open the function switch and timer circuit boards and lift up the whole main circuit board on it.
3) Lay an insulation sheet cover on the mechanism block and place the main circuit board on it.

Cautions:

When the VTR is set to the servicing position, it is not possible to operate the VTR with its switches (behind the front panel). Use the remote control to operate the VTR. The cassette can be removed by pressing **S702 (EJECT)** on the timer circuit board.

Y/Chroma Separate circuit board adjustment:

1) Place the side of the VTR down with the mechanism block downward.

Posizioni di servizio

Regolazioni sulla piastra principale, piastra audio e interfaccia Y/C sono possibili comunque togliendo la parte superiore della scatola e il coperchio sul fondo, anche se il VTR non si trova nella posizione di servizio.

Regolazioni delle piastre Y/croma e OSD

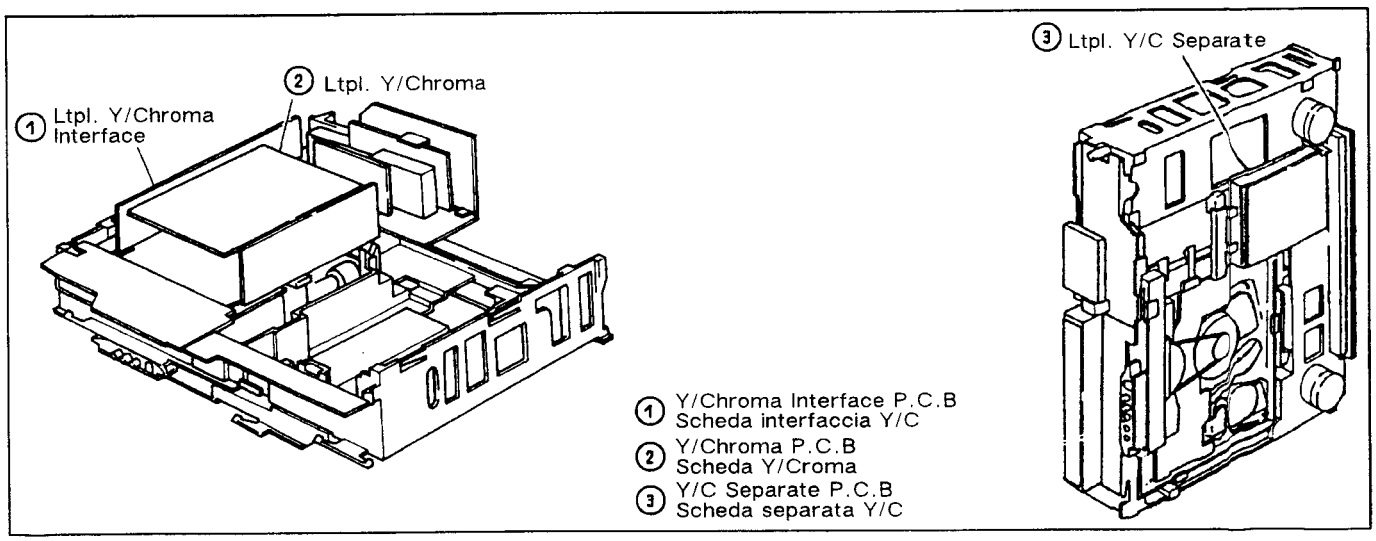
1) Togliere la parte superiore della scatola, il coperchio sul fondo e il pannello frontale.
2) Ribaltare in fuori le piastre dei tasti funzionali e del timer ed estrarre la piastra principale completa.
3) Mettere una copertura isolante sul blocco dei drive e poggiarvi sopra la piastra principale.

Attenzione:

Se il VTR si trova in posizione di servizio, non sono possibili i comandi del videoregistratore a mezzo dei tasti funzionali (dietro il pannello frontale). Usare il telecomando per azionare il VTR. L'espulsione della cassetta si ottiene premendo il tasto **S702 (EJECT)** sulla piastra del timer.

Regolazione della piastra separata Y/C:

1) Poggiare il videoregistratore con il lato dove e' montato il drive verso il basso.



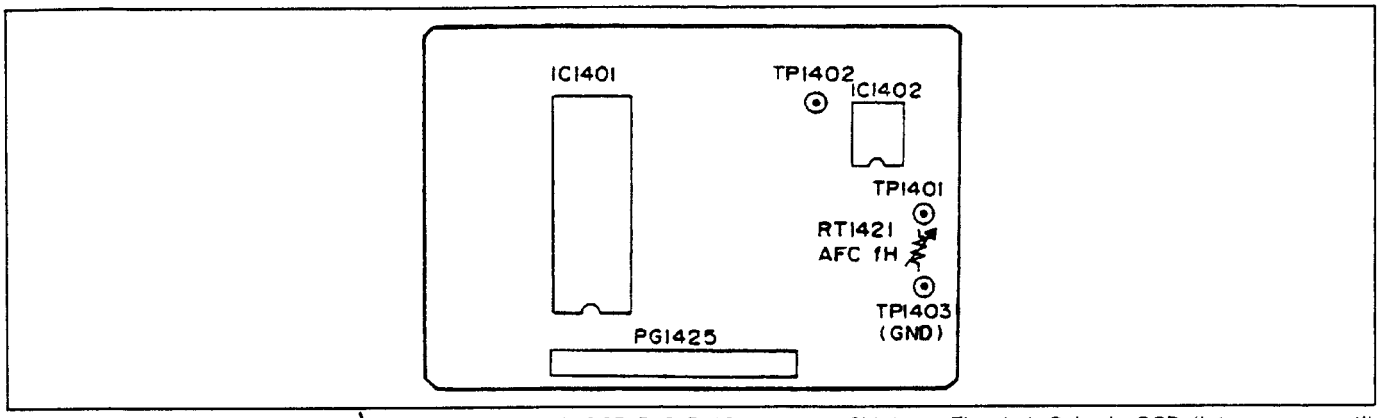


Bild 1-1 Ltpl. OSD (Bauteileseite) Fig. 1-1 OSD P.C.B (Component Side) Fig. 1-1 Scheda OSD (lato componenti)

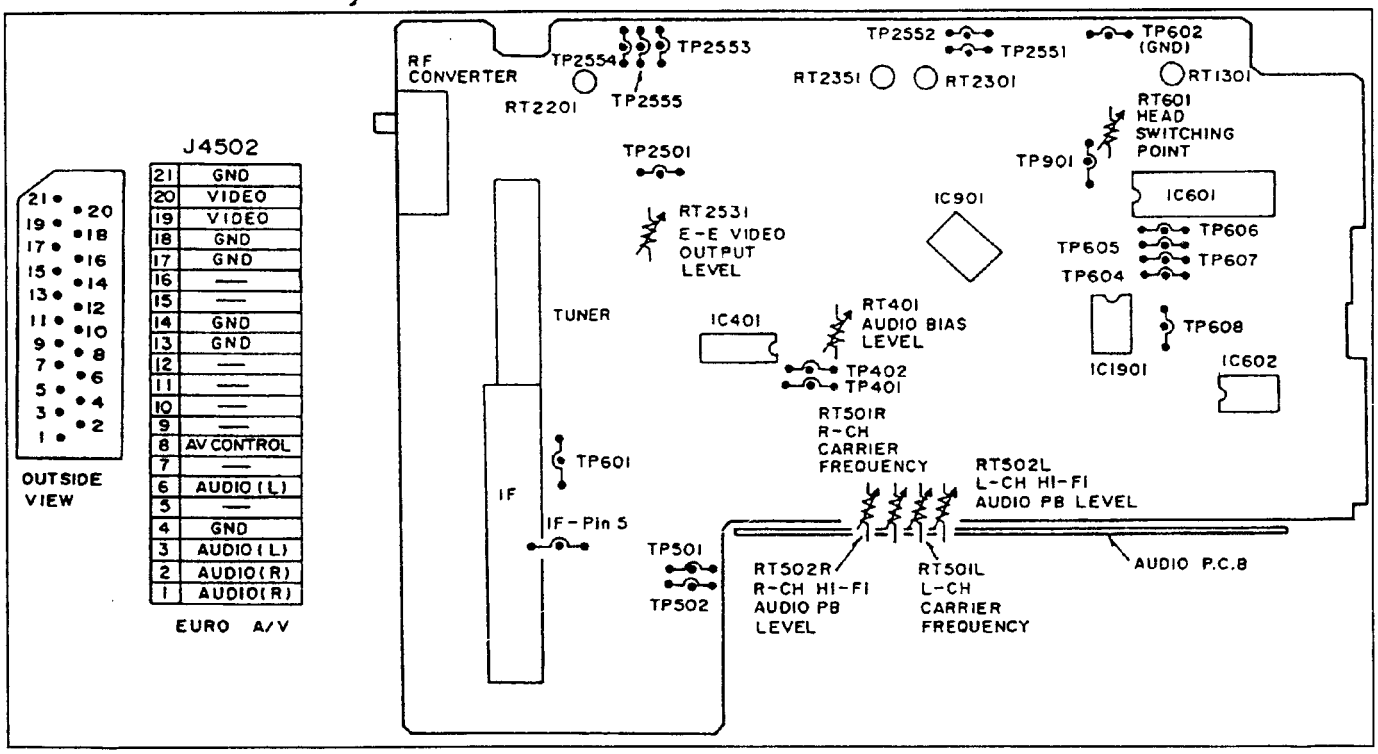


Bild 1-2 Hauptleiterplatte (Lötseite) Fig. 1-2 Main P.C.B (Solder Side) Fig. 1-2 Scheda principale (lato saldatura)

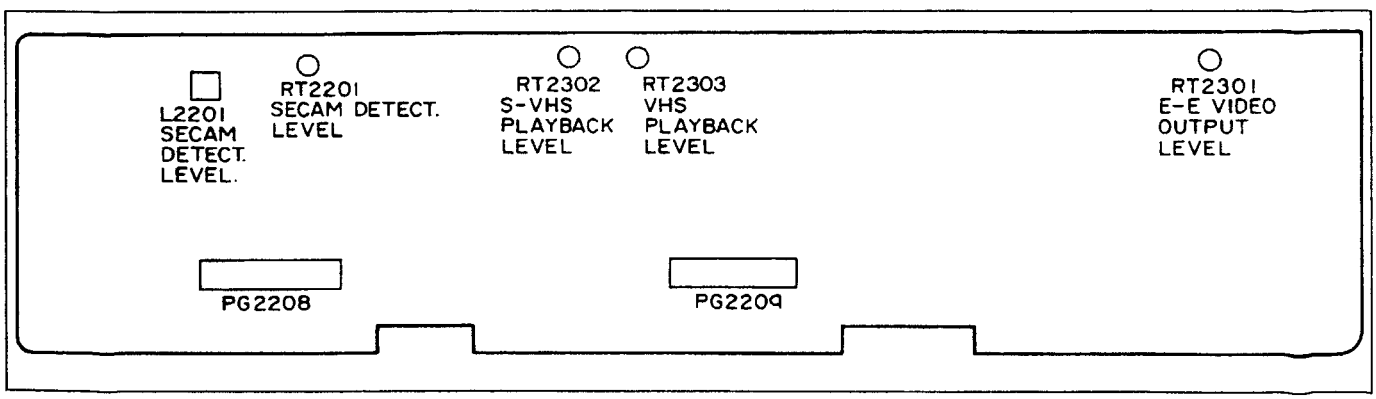


Bild 1-3 Ltpl. Y/C Interface (Bauteileseite) Fig. 1-3 Y/C Interface P.C.B (Component Side) Fig. 1-3 Scheda Y/C Interface (lato componenti)

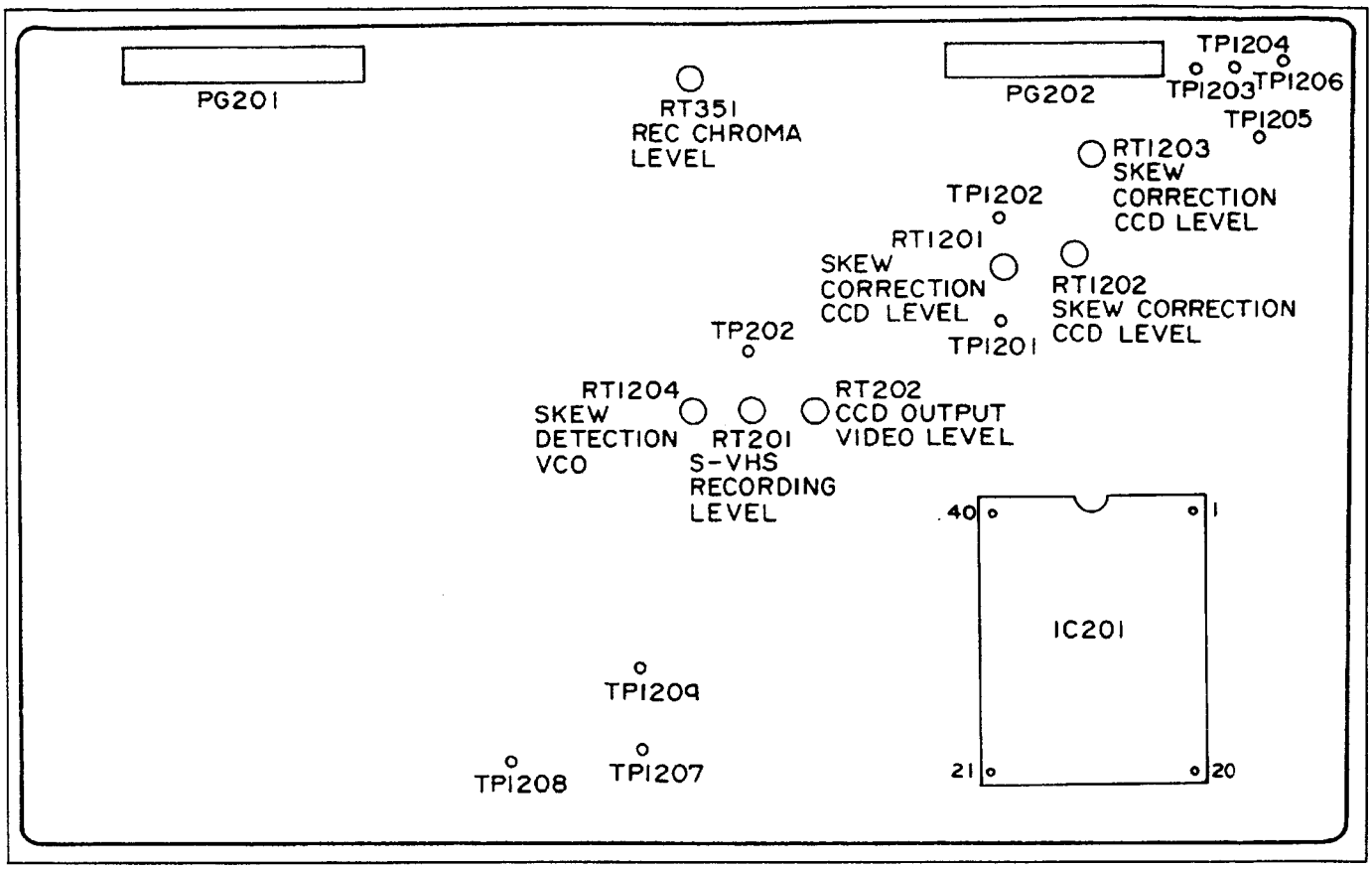


Bild 1-4 Ltpl. Y/Chroma (Lötseite) Fig. 1-4 Y/Chroma P.C.B (Solder Side) Fig. 1-4 Scheda Y/Chroma (lato saldatura)

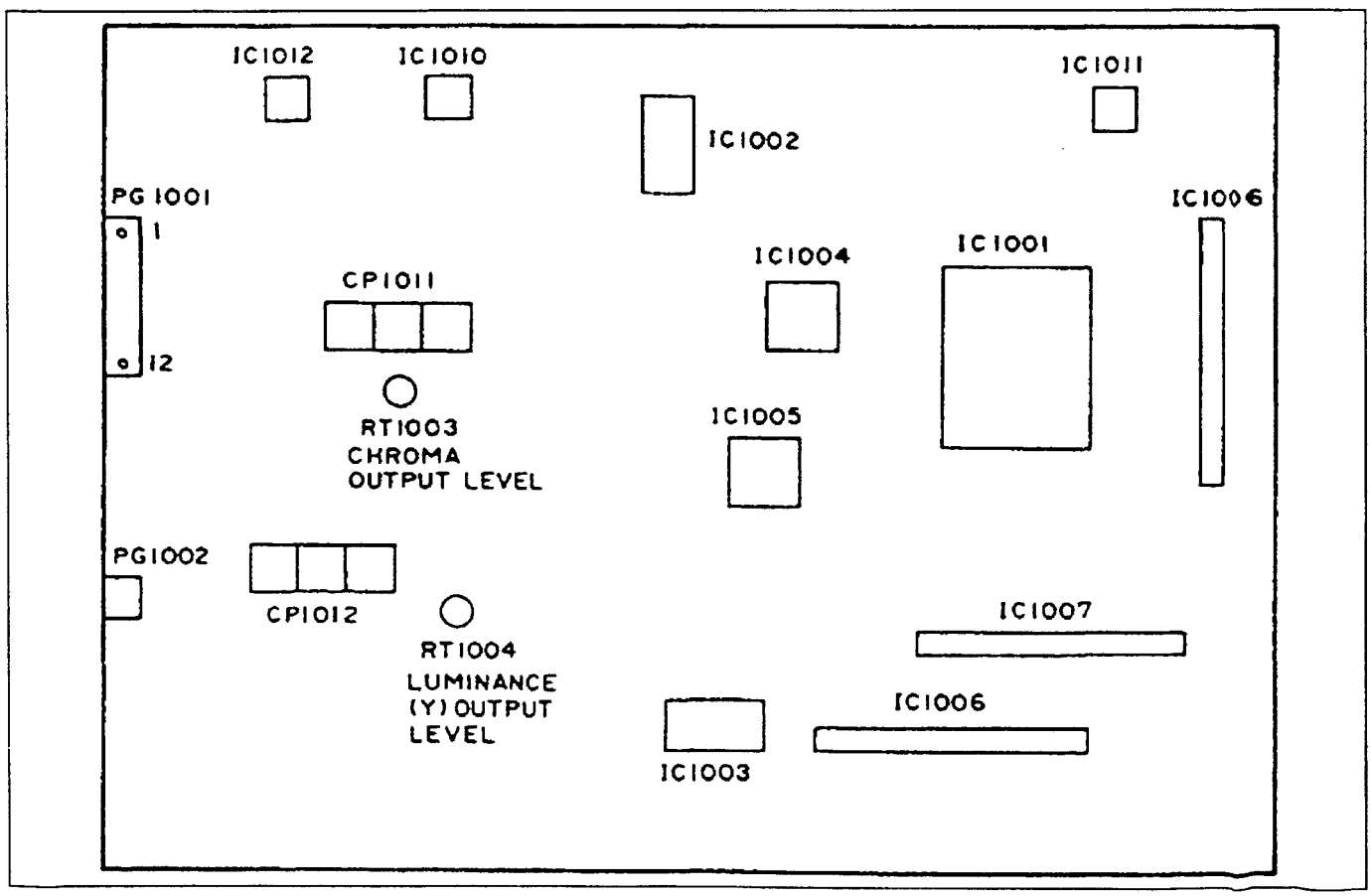


Bild 1-5 Ltpl. Y/Chroma Separate (Bauteileseite) Fig. 1-5 Y/Chroma Separate (Component Side) Fig. 1-5 Scheda Y/C Separate (lato componenti)

1. SERVO

1) Kopfumschaltpunkt

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des Kopfumschaltpunkts auf nahezu die Mitte, wo sich die CH-1- und CH-2-Hüllkurven während der Wiedergabe einander überlappen.
Fehler:

* Das Vertikal-Sync-Signal ist beeinträchtigt und Vertikalzittern tritt auf.
* Umschaltstörungen erscheinen im unteren Bildteil.

1. SERVO

1) Head Switching Point

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the video head switching point to almost the centre where the CH-1 and CH-2 envelopes overlap each other during playback
Fault:

* The vertical sync signal is degraded and vertical jitter occurs.
* Switching noise occurs in the lower part of the picture.

1. SERVO

1) Commutazione della testa video

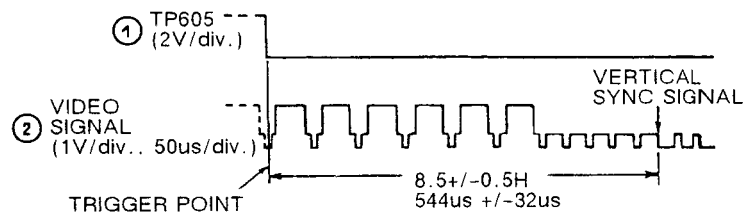
Apparizione errore con allineamento errato
Scopo: Impostazione del punto di commutazione testina all'incirca al centro, nel punto in cui le curve d'involuppo CH-1 e CH-2 si sovrappongono durante la riproduzione.
Errori:

* Il segnale di sincronismo verticale e' disturbato e l'immagine trema in senso verticale.
* Disturbi di commutazione nella parte inferiore del quadro.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Abgleichband (MH-2) Oscilloscope Alignment Tape (MH-2) Oscilloscopio Nastro di taratura (MH-2)	CH-1: VIDEO OUT CH-2: TP605 (SW25Hz)	Tracking-Regelung: Elektr. Mittelstellung Tracking Control: Electrical centre Regolazione del tracking: posizione elettr. centrale Abgleichband wiedergeben (Graustufen) Playback alignment tape (stairsteps) Riprodurre il nastro di allineamento (Segnale grigio a gradini)	RT601

① 2V/Skalenteil
2V/parti di scala

② 1V/Skalenteil, 50us/Skalenteil
1V/parti di scala, 50us/parti di scala



Abgleichvorgang
Oszilloskop-Einstellungen:

* Triggerwahlschalter auf "-"
* Mit CH-2 triggern

Vertikal-Sync-Signal: Auf 544us +/-32us ab der fallenden Flanke (Triggerpunkt) des SW25Hz-Pulses einstellen.

Adjustment Procedure
Oscilloscope settings:

* Set sync slope switch to "-"
* Trigger with CH-2

Vertical sync signal: 8.5H +/-0.5H from trailing edge (trigger point) of SW25Hz pulse.

Procedura per la taratura
Regolazione dell'oscilloscopio:

* Selettore dell'eccitatore: "-"
* Eccitare con CH-2

Segnale di sincronismo verticale:
Porre su 544us +/- 32us a portire dal fianco cadente (punto di eccitazione) dell'impulso SW25Hz.

2) Vertikalsynchronsignal

Fehlererscheinung bei Fehlabgleich
Zweck: Abgleich der Zeitsteuerung zur Erzeugung eines Bremsimpulses für den Capstan-Motor während der Wiedergabe der Sonderfunktionen.
Fehler:
Vertikales Bildzittern tritt in den Sonderfunktionen auf.

2) Vertical Sync

Purpose of adjustment and fault occurring if incomplete
Purpose: Change timing for adding vertical drive pulses and suppress vertical jitter in the picture during trick play.
Fault:
Vertical jitter occurs in the picture during trick play.

2) Segnale di sincronismo verticale

Apparizione errore con allineamento errato
Scopo: Modifica del controllo nel tempo. per aggiungere impulsi di pilotaggio verticale (allo scopo di eliminare il tremolio verticale dell'immagine nelle funzioni speciali).
Errore:
Nelle funzioni speciali si manifesta un tremolio verticale.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Fernsehmonitor Monitor TV Monitore TV	VIDEO OUT-Buchse oder HF-Buchse VIDEO OUT jack or RF OUT Presa VIDEO OUT o presa RF OUT	Farbbalkensignal aufnehmen und im Standbildbetrieb abspielen. Record colour bar signal and play it back in STILL mode. Registrare segnale in banda a colori e riprodurlo con immagine ferma.	Tracking-Tasten Tracking buttons Tasti del tracking (▼/▲)
Farbbalkengenerator Colour bar generator Generatore di barre a colori	Buchse/Jack/Presa VIDEO IN		

Abgleichvorgang

1) Bandgeschwindigkeit: SP
2) TRACKING-Tasten: vertikales Bildzittern beseitigen.
3) Bandgeschwindigkeit: LP
4) TRACKING-Tasten: vertikales Bildzittern beseitigen.

Adjustment procedure

1) Tape Speed: SP
2) TRACKING BUTTONS: Suppress vertical jitter in picture.
3) Tape Speed: LP
4) TRACKING BUTTONS: Suppress vertical jitter in picture.

Procedura per la taratura

1) Velocita' del nastro: SP
2) Tasto di TRACKING: Eliminare il tremolio verticale dell'immagine del monitor.
3) Velocita' del nastro: LP
4) Tasto di TRACKING: Eliminare il tremolio verticale dell'immagine del monitor.

3) Rückwärtszeitlupen-Tracking-voreinstellung

Fehlererscheinung bei Fehlabgleich
Zweck: Abgleich der Zeitsteuerung der für den Capstan-Motor erzeugten Bremsimpulse zur Rauschzonenminimierung während der Rückwärtszeitlupe.
Fehler:
Im Rückwärtszeitlupenbild treten Rauschstörungen auf.

3) Reverse Slow Tracking Preset

Purpose of adjustment and fault occurring if incomplete
Purpose: To adjust the timing with which brake pulses are generated for the capstan motor during reverse slow play and minimize noise.
Fault:
Noise appears during reverse slow play and the picture is difficult to see.

3) Preasetto tracking rallentatore marcia indietro

Errore di staratura
Scopo: taratura del temporizzatore per gli impulsi di frenata del motore Capstan per minimizzare la zona di fruscio durante il rallentamento marcia indietro.
Difetto:
Fruscio durante il rallentamento marcia indietro.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Fernsehmonitor Monitor TV Monitore TV	VIDEO OUT-Buchse oder HF-Buchse VIDEO OUT jack or RF OUT Presa VIDEO OUT o presa RF OUT	Farbbalkensignal aufnehmen und im Zeitlupenbetrieb abspielen. Record colour bar signal and play it back in slow mode. Registrare segnale in banda a colori e riprodurlo al rallentatore. **Slow Tracking:** Electrical centre **Rallentatore tracking:** centraggio elettrico **Zeitlupen-Tracking:** Elektrische Mittelstellung	TRACKING-Tasten TRACKING buttons Bottone TRACKING ▼/▲
Farbbalkengenerator Colour bar generator Generatore di barre a colori	Buchse/Jack/Presa VIDEO IN (Cinch/US pin)		

Hinweis:
Diesen Abgleich bei anmontierter Frontblende durchführen.

Note:
Perform this adjustment with the front panel attached.

Nota:
Questa taratura si effettua a pannello frontale smontato.

Abgleichvorgang

LP-Rückwärtszeitlupen-Tracking-Voreinstellung

1) Bandgeschwindigkeit: LP
2) Farbbalkensignal aufzeichnen und mit dem gleichen VTR wiedergeben.
3) Den VTR zwangsweise auf Rückwärtszeitlupenbetrieb stellen.
(**PAUSE-Taste** am VTR und gleichzeitig die **TRACKING-Tasten (▼/▲)** der Fernbedienung während des Wiedergabebetriebs drücken.)
4) TRACKING-Tasten: Das Rauschen gleichmäßig in die obere und untere Hälfte des Monitorbildschirms verteilen.
5) Die PLAY-Taste drücken zur Rückkehr des VTR in den Wiedergabebetrieb.
(Bei der Rückkehr in den Wiedergabebetrieb werden die Voreinstellungsdaten in das EAROM geschrieben.)

SP-Rückwärtszeitlupen-Tracking-Voreinstellung

Bandgeschwindigkeit auf SP stellen und den gleichen Abgleich, wie in den Schritten 2) bis 5) der LP-Rückwärtszeitlupen-Tracking-Voreinstellung durchführen.

4) Vorwärtszeitlupen-Tracking-voreinstellung

Fehlererscheinung bei Fehlabgleich
Zweck: Abgleich der Zeitsteuerung der für den Capstan-Motor erzeugten Bremsimpulse zur Rauschzonenminimierung während der Vorwärtszeitlupe.
Fehler:
Im Vorwärtszeitlupenbild treten Rauschstörungen auf.

Adjustment Procedure

LP Reverse Slow Tracking Preset

1) Tape speed: LP
2) Record a colour bar signal and play it back with the same VTR.
3) Forcibly set the VTR to the reverse slow mode.
(Press the **PAUSE button** of the VTR and the **TRACKING (▲)** and **(▼) buttons** of the remote control simultaneously during play.)
4) TRACKING buttons: Distribute noise evenly in the upper and lower halves of the monitor screen.
5) Press the PLAY button to return the VTR to the play mode.
(When returned to the play mode, the preset data is written to the EAROM.)

SP Reverse Slow Tracking Preset

Switch the tape speed to SP and perform the same as in steps 2) to 5) of the LP Reverse Slow Tracking Preset Adjustment.

4) Forward Slow Tracking Preset

Purpose of adjustment and fault occurring if incomplete
Purpose: To adjust the timing with which brake pulses are generated for the capstan motor during forward slow play and minimize noise.
Fault: Noise appears during slow play and the picture is difficult to see.

Procedura per la taratura

Preassetto del tracking del rallentatore marcia indietro LP

1) Velocita' nastro: LP
2) Registrare il segnale a strisce di colore (monoscopio) e riprodurlo sullo stesso registratore.
3) Forzare il videoregistratore in funzionamento al rallentatore marcia indietro.
(Premere contemporaneamente il **tasto PAUSE** sul registratore e i **tasti TRACKING (▼/▲)** sul telecomando. durante la riproduzione.)
4) Tasti TRACKING: eliminare il fruscio in modo uguale sulla meta' superiore e inferiore del monitore.
5) Premere il tasto PLAY per riportare il registratore in riproduzione. (Al ritorno in riproduzione i dati di preimpostazione sono iscritti nella EAROM.)

Preassetto del tracking del rallentatore marcia indietro SP

Impostare la velocita' nastro SP ed effettuare la stessa taratura descritta ai copoversi da 2) a 5) per il tracking del rallentatore marcia indietro LP.

4) Preasetto tracking rallentatore marcia avanti

Errore di staratura
Scopo: taratura del temporizzatore per gli impulsi di frenata del motore Capstan per minimizzare la zona di fruscio durante il rallentamento marcia avanti.
Difetto:
Fruscio durante il rallentamento marcia avanti.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Fernsehmonitor Monitor TV Monitore TV	VIDEO OUT-Buchse oder HF-Buchse VIDEO OUT jack or RF OUT Presa VIDEO OUT o presa RF OUT	Farbbalkensignal aufnehmen und im Zeitlupenbetrieb abspielen. Record colour bar signal and play it back in slow mode. Registrare segnale in banda a colori e riprodurlo al rallentatore.	TRACKING-Tasten TRACKING buttons Bottone TRACKING ▼/▲
Farbbalkengenerator Colour bar generator Generatore di barre a colori	Buchse/Jack/Presa VIDEO IN (Cinch/US pin)	**Slow Tracking:** Electrical centre **Rallentatore tracking:** centraggio elettrico **Zeitlupen-Tracking:** Elektrische Mittelstellung	

Hinweis:
Diesen Abgleich bei anmontierter Frontblende durchführen.

Note:
Perform this adjustment with the front panel attached.

Nota:
Questa taratura si effettua a pannello frontale smontato.

Abgleichvorgang

LP-Vorwärtszeitlupen-Tracking-Voreinstellung

1) Bandgeschwindigkeit: LP
2) Farbbalkensignal aufzeichnen und mit dem gleichen VTR wiedergeben.
3) Den VTR zwangsweise auf Vorwärtszeitlupenbetrieb stellen.
(**PLAY-Taste** am VTR und gleichzeitig die **TRACKING-Tasten** (▼/▲) der Fernbedienung während des Wiedergabebetriebs drücken.)
4) TRACKING-Tasten: Das Rauschen auf dem Monitorbildschirm beseitigen.
5) Die PLAY-Taste drücken zur Rückkehr des VTR in den Wiedergabebetrieb.
(Bei der Rückkehr in den Wiedergabebetrieb werden die Voreinstellungsdaten in das EAROM geschrieben.)

SP-Vorwärtszeitlupen-Tracking-Voreinstellung

Bandgeschwindigkeit auf SP stellen und den gleichen Abgleich. wie in den Schritten 2) bis 5) der LP-Vorwärtszeitlupen-Tracking-Voreinstellung durchführen.

Adjustment Procedure

LP Forward Slow Tracking Preset

1) Tape speed: LP
2) Record a colour bar signal and play it back with the same VTR.
3) Forcibly set the VTR to the forward slow mode.
(Press the **PLAY button** of the VTR and the **TRACKING** (▲) and (▼) **buttons** of the remote control simultaneously during play.)
4) TRACKING buttons: Eliminate the noise from the monitor screen.
5) Press the PLAY button to return the VTR to the play mode.
(When returned to the play mode, the preset data is written to the EAROM.)

SP Forward Slow Tracking Preset

Switch the tape speed to SP and perform the same as in steps 2) to 5) of the LP Forward Slow Tracking Preset Adjustment.

Procedura per la taratura

Preassetto del tracking del rallentatore marcia avanti LP.

1) Velocita' nastro: LP
2) Registrare il segnale a strisce di colore (monoscopio) e riprodurlo sullo stesso registratore.
3) Forzare il videoregistratore in funzionamento a rallentatore marcia avanti.
(Premere contemporaneamente il **tasto PLAY** sul registratore e i **tasti TRACKING** (▼/▲) sul telecomando durante la riproduzione.)
4) Tasti TRACKING: eliminare il fruscio sul monitore.
5) Premere il tasto PLAY per riportare il registratore in riproduzione. (Al ritorno in riproduzione i dati di preimpostazione sono iscritti nella EAROM.)

Preassetto del tracking del rallentatore marcia avanti SP

Impostare la velocita' nastro SP ed effettuare la stessa taratura descritta ai copoversi da 2) a 5) per il tracking del rallentatore marcia avanti LP.

2. AUTOMATISCHE VIDEO-VERSTÄRKUNGSREGELUNG

1) E-E Video-Ausgangspegel

Fehlererscheinung bei Fehlabgleich
Zweck: Den Videoausgangspegel im E-E Betrieb auf den festgelegten Wert einstellen.
Fehler:
Korrekte Farbwiedergabe und Helligkeit wird nicht erreicht.

2. VIDEO AGC CIRCUIT

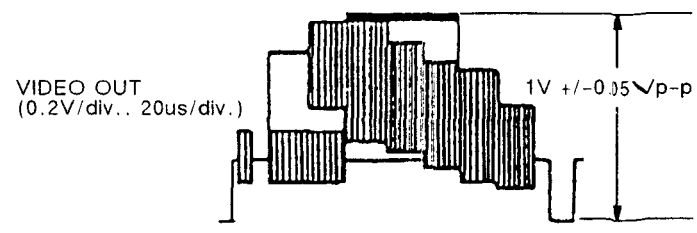
1) E-E Video Output Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the video output level in the E-E mode to a specified value.
Fault:
The correct tint and brightness cannot be obtained.

2. REGOLAZIONE AUTOMATICA AMPLIFICAZIONE VIDEO

1) Livello di uscita video E-E

Apparizione errore con allineamento errato
Scopo: Impostare il livello di uscita video nel modo E-E sul valore stabilito.
Errore:
Non si ottiene una corretta riproduzione dei colori e della luminosita'.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatoredi barre a colori	Buchse/Jack/Presa VIDEO IN	Farbbalkensignal empfangen. (LINE IN) E-E Betrieb Receive colour bar signal. (LINE IN) E-E mode Ricevere segnale in banda a colori (LINE IN) Funzionamento in modo E-E	RT2531
Oszilloskop Oscilloscope Oscilloscopio	Buchse/Jack/Presa VIDEO OUT		
			

Abgleichvorgang

1) RT2531: Den E-E Videoausgangspegel auf 1 +/-0.05Vss einstellen. (Abschluß mit 75 Ohm)

Adjustment procedure

1) RT2531: Set the video output level to 1 +/-0.05Vp-p. (75 ohms terminated)

Procedura per la taratura

1) RT2531: Impostare il livello di uscita video E-E su 1 +/-0.05Vp—p (su 75 Ohm di uscita).

3. Y/CHROMA

1) Chroma-Aufnahmepegel

Fehlererscheinung bei Fehlabgleich
Zweck: Den Chroma-Aufnahmepegel auf den optimalen Wert einstellen.
Fehler:
* Farbstörungen oder schwache Farbe im wiedergegebenen Bild.

3. Y/CHROMA

1) Rec Chroma Level Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the Chroma level to the optimum value.
Fault:
* Diamond beats occur in the played back picture or colouring becomes poor.

3. Y/CROMA

1) Livello croma di registrazione

Apparizione errore con allineamento errato
Scopo: Regolare il livello croma di registrazione sul valore migliore.
Errore:
* Disturbi nel colore o colore debole nell'immagine riprodotta.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand des Videorecorders VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatore di barre a colori	VIDEO IN	Betriebsart Aufnahme. VHS-Betrieb REC mode. VHS mode Funzionamento in modo REC & VHS	RT351
Oszilloskop Oscilloscope Oscilloscopio	TP2551	REC CHROMA LEVEL 110 +/-5mVp-p (50mV/div., 20us) 1H (64us)	
Leercassette (VHS) Blank tape (VHS) Nastro vuoto (VHS)			

Abgleichvorgang
1) RT351: Den Chroma-Aufnahmepegel auf 110 +/-5mVss einstellen.

Adjustment procedure
1) RT351: Set the record chroma level to 110+/-5mVp-p.

Procedura per la taratura
1) RT351: portare il livello di registrazione della crominanza su 110mVp-p +/-5mVp-p.

2) S-VHS-Aufnahmepegel

Fehlererscheinung bei Fehlabgleich
Zweck: Den Video-Aufnahmepegel im S-VHS-Betrieb auf den festgelegten Wert einstellen.
Fehler:
* Störungen im Bild treten auf.

2) S-VHS Recording Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the recording video level in the S-VHS mode to the specified value.
Fault:
* Beats occur.

2) Livello S-VHS di registrazione

Apparizione errore con allineamento errato
Scopo: regolazione del livello di registrazione video sul valore previsto in funzionamento S-VHS.
Errore:
* Disturbi dell'immagine.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatore di barre a colori	VIDEO IN	Betriebsart Aufnahme. S-VHS-Betrieb REC mode. S-VHS mode Funzionamento in modo REC & S-VHS	RT201
Oszilloskop Oscilloscope Oscilloscopio	IC201-Pin29	400 +/-10mVp-p	
Leercassette (S-VHS) Blank tape (S-VHS) Nastro vuoto (S-VHS)			

Abgleichvorgang
1) RT201: Den Video-Aufnahmepegel auf 400 +/-10mVss einstellen.

Adjustment procedure
1) RT201: Set the record video level to 400+/-10mVp-p.

Procedura per la taratura
1) RT201: portare il livello di registrazione della video su 400mVp-p +/-10mVp-p.

3) CCD-Videoausgangspegel

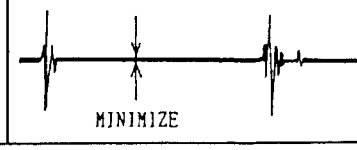
Fehlererscheinung bei Fehlabgleich
Zweck: Den Videosignal-Wiedergabepegel aus dem CCD-Augang auf den spezifizierten Wert einstellen.
Fehler: Dropout kann nicht kompensiert werden.

3) CCD Output Video Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the playback level of the video signal output from the CCD to the specified value.
Fault: Drop out cannot be compensated.

3) Livello uscita video CCD

Apparizione errore con allineamento errato
Scopo:regolazione del livello del segnale di riproduzione video dall'uscita CCD sul valore previsto.
Errore: il dropout non puo' essere compensato.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand des Videorecorders VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatore di barre a colori	VIDEO IN	Farbbalkensignal aufnehmen und mit diesem Gerät abspielen (SP-Betrieb) Record colour bar signal and play it back with this unit (SP mode). Registrare il segnale della striscia di colore e riprodurlo con questo apparecchio (funzionamento SP).	**RT202** 
Oszilloskop Oscilloscope Oscilloscopio	TP201		
Leerband (VHS) Blank tape (VHS) Nastro vuoto (VHS)			

Abgleichvorgang
RT202: Die Amplitude des Signals auf Minimum einstellen.

Adjustment Procedure
RT202: Minimize the amplitude of the waveform.

Procedura per la taratura
RT202: Regolare sul minimo l'amplitudine del segnale.

4) Schrägfehlerkorrektur-CCD-Pegel

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des Video- und des Chromapegels aus der Skew-CCD-Schaltungsanordnung.
Fehler: Schlechte Farbwiedergabe oder die richtige Helligkeit kann nicht während der LP-Sonderfunktionen erreicht werden.

4) Skew Correction CCD Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the video level and colour level from the skew collection CCD.
Fault: Colouring becomes poor or the correct brightness cannot be obtained during LP trick play.

4) Correzione errore di obliquita' livello CCD

Apparizione errore con allineamento errato
Scopo: regolazione del livello video e croma sul circuito skew-CCD.
Errore: riproduzione difettosa del colore o la luminosita' ottimale non si ottiene durante le funzioni speciali LP.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatore di barre a colori	VIDEO IN	Farbbalkensignal aufnehmen und mit diesem Gerät abspielen (S-VHS SP-Betrieb) Record colour bar signal and play it back with this unit (S-VHS SP mode) Registrare il segnale della striscia di colore e riprodurlo con questo apparecchio (funzionamento SP S-VHS).	**RT1201** **RT1203** **RT1202**
Oszilloskop Oscilloscope Oscilloscopio	CH-1: TP1201 CH-2: TP1202		
Leerband (S-VHS) Blank tape (S-VHS) Nastro vuoto (S-VHS)			

Abgleichvorgang
1. RT1201: Die CH-1- und CH-2-Oszillogramme auf dem Oszilloskop beobachten und die Luminanzpegel angleichen.
2. CH-1 des Oszilloskops an TP1203 und CH-2 an TP1204 anschließen.
3. RT1203: Die CH-1- und CH-2-Oszillogramme auf dem Oszilloskop beobachten und die Chromapegel angleichen.
4. CH-1 des Oszilloskops an TP1205 und CH-2 an TP1206 anschließen.
5. RT1202: Die CH-1- und CH-2-Oszillogramme auf dem Oszilloskop beobachten und die Chromapegel angleichen.

Adjustment Procedure
1. RT1201: Observe the CH-1 and CH-2 waveforms on the oscilloscope and align the luminance levels.
2. Connect CH-1 of the oscilloscope to TP1203 and CH-2 to TP1204.
3. RT1203: Observe the CH-1 and CH-2 waveforms on the oscilloscope and align the chroma levels.
4. Connect CH-1 of the oscilloscope to TP1205 and CH-2 to TP1206.
5. RT1202: Observe the CH-1 and CH-2 waveforms on the oscilloscope and align the chroma levels.

Procedura per la taratura
1. RT1201: osservare gli oscillogrammi CH-1 e CH-2 e adattare i livelli di luminanza.
2. Collegare il CH-1 dell'oscilloscopio a TP1203 e il CH-2 a TP1204.
3. RT1203: osservare gli oscillogrammi CH-1 e CH-2 e adattare i livelli croma.
4. Collegare il CH-1 dell'oscilloscopio a TP1205 e il CH-2 a TP1206.
5. RT1202: osservare gli oscillogrammi CH-1 e CH-2 e adattare i livelli croma.

5) Schrägfehlerdetektor-VCO

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung der Bezugstaktfrequenz des Skew-Detektor-Schaltkreises.
Fehler: Schrägfehler tritt während der LP-Sonderfunktionen auf.

5) Skew Detection VCO

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the reference clock frequency of the skew detection circuit.
Fault: Skew occurs in the picture during LP trick play.

5) Sensore di difetto di obliquita' VCO

Apparizione errore con allineamento errato
Scopo: regolazione della frequenza di scansione di riferimento del circuito sensor skew.
Errore: difetto di obliquita' durante le funzioni speciali LP.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand des Videorecorders VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Frequenzzähler Frequency counter Frequenzometro	TP1208	Aufnahmebetrieb REC mode Funzionamento REC	RT1204

Abgleichvorgang
1. TP1207 und TP1209 verbinden.
2. RT1204: Auf eine Frequenzzähleranzeige von 30.5KHz +0.4/-0.1KHz einstellen.

Adjustment Procedure
1. Connect TP1207 and TP1209.
2. RT1204: Set the reading of the frequency counter to 30.5kHz +0.4/ -0.1kHz.

Procedura per la taratura
1. Collegare TP1207 con TP1209.
2. RT1204: regolare su indicazione del contatore di frequenza di 30.5 kHz +0.4/-0.1 kHz.

4. Y/C SEPARATE SCHALTUNG

Vor der Duirchführung dieses Abgleichs ein Oszilloskop an **PG1001 Pin 3** anschließen und kontrollieren, ob der Video-Ausgangspegel im E-E-Betrieb **1Vss** beträgt. Wenn nicht, Abgleich laut **Kapitel 5-1** durchführen: **E-E-Video-ausgangspegelabgleich**

4. Y/C SEPARATE CIRCUIT

Before performing this adjustment, connect an oscilloscope to **PG1001 pin 3** and check that the video output level in the E-E mode is **1Vp-p**. If it is not set to 1Vp-p, perform **5-1: E-E Video Output Level Adjustment**.

4. CIRCUITO Y/C SEPARATO

Prima di questa taratura collegare l'oscilloscopio a **PG1001, ago 3**, e controllare se il livello di uscita video in funzionamento E-E e' di **1Vpp**. In caso negativo tarare come descritto al **capitolo 5-1: taratura del livello di uscita video E-E.**

1) Chroma-Ausgangspegel

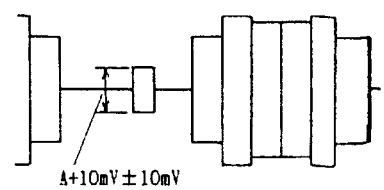
Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des S-VIDEO-Farbausgangspegels auf den spezifizierten Wert.
Fehler:
Der korrekte Farbpegel am S-VIDEO-Ausgang kann im E-E-Betrieb nicht erreicht werden.

1) Chroma Output Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the S-VIDEO output colour level in the E-E mode to a specified value.
Fault:
The correct colour level cannot be obtained at the S-VIDEO output in the E-E mode.

1) Livello di uscita croma

Apparizione errore con allineamento errato
Scopo: regolazione del livello di uscita colore S-VIDEO sul valore prestabilito.
Errore:
Il livello corretto del colore sull'uscita S-VIDEO non e' ottenibile in funzionamento E-E.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand des Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatoredi barre a colori	Buchse/Jack/Presa VIDEO IN	E-E Betrieb E-E mode Funzionamento in modo E-E	RT1003 
Oszilloskop Oscilloscope Oscilloscopio	PG1001-Pin5		

Abgleichvorgang
1) Den Burst-Pegel des vom Farbbalkengenerator eingespeisten Signals messen.
2) RT1003: Die Amplitude des Burst-Signals auf **A + 10mV +/-10mV** in Bezug auf den Eingangs-Burst-Pegel A einstellen.

Adjustment procedure
1) Measure the burst level of the signal input from the colour bar generator.
1) RT1003: Set the amplitude of the burst signal to **A + 10mV +/-10mV** with respect to the input burst level (A).

Procedura per la taratura
1) Misurare il livello burst del segnale fornito dal generatore di striscia di colore.
2) RT1003: regolare l'amplitudine del segnale burst su **A + 10mV +/- 10mV** rispetto al livello A di ingresso burst.

2) Luminanz (Y)-Ausgangspegel

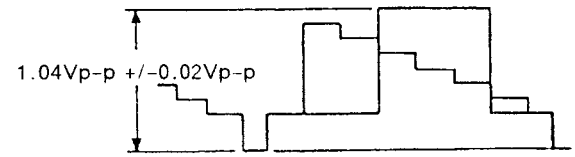
Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des S-VIDEO-Luminanzausgangspegels (Y) auf den spezifizierten Wert.
Fehler:
Der korrekte Luminanzpegel (Y) am S-VIDEO-Ausgang kann nicht erreicht werden.

2) Luminance (Y) Output Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the S-VIDEO output luminance (Y) level to a specified value.
Fault:
The correct luminance (Y) level cannot be obtained at the S-VIDEO output.

2) Livello di uscita luminanza (Y)

Apparizione errore con allineamento errato
Scopo: regolazione del livello di uscita luminanza (Y) di S-VIDEO sul valore prestabilito.
Errore:
Non si ottiene il livello corretto di luminanza (Y) sull'uscita S-VIDEO.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatoredi barre a colori	Buchse/Jack/Presa VIDEO IN	E-E Betrieb E-E mode Funzionamento in modo E-E	RT1004
Oszilloskop Oscilloscope Oscilloscopio	PG1001-Pin7		
			

Abgleichvorgang
1) RT1004: Die Amplitude des Oszillgramms auf 1.04+/-0.02Vss einstellen.

Adjustment procedure
1) RT1004: Set the amplitude of waveform to 1.04+/-0.02Vp-p.

Procedura per la taratura
1) RT1004: regolare l'amplitudine dell'oscillogramma su 1.04 +/-0.02 Vpp.

5. Y/C INTERFACE SCHALTUNG

1) E-E Video-Ausgangspegel

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des Videoausgangspegels im E-E-Betrieb auf den spezifizierten Wert.
Fehler:
Korrekter Farbton und Helligkeit können nicht erreicht werden.

5. Y/C INTERFACE CIRCUIT

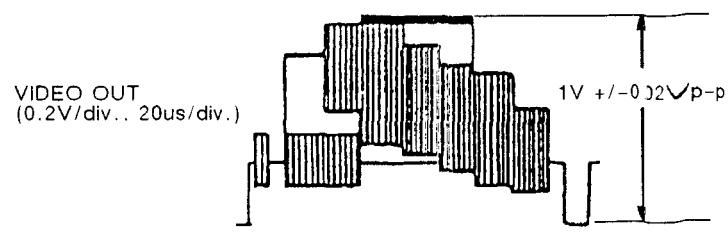
1) E-E Video Output Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the video output level in the E-E mode to a specified value.
Fault:
The correct tint and brightness cannot be obtained.

5. CIRCUITO DI INTERFACCIA Y/C

1) Livello di uscita video E-E

Apparizione errore con allineamento errato
Scopo: regolazione del livello di uscita video in funzionamento E-E sul valore prestabilito.
Errore:
Non si ottengono il tono colore e la luminosita' dovuti.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatoredi barre a colori	Buchse/Jack/Presa VIDEO IN	E-E Betrieb Farbbalkensignal aufnehemen (LINE IN). E-E mode Record colour bar signal (LINE IN). Funzionamento in modo E-E Registrare il segnale della striscia di colore (LINE IN).	RT2301
Oszilloskop Oscilloscope Oscilloscopio	VIDEO OUT		
			

Abgleichvorgang
1) RT2301: Den E-E Video-Ausgangspegel auf 1+/-0.02Vss einstellen. (Abschluß mit 75 Ohm)

Adjustment procedure
1) RT2301: Set the E-E video output level to 1+/-0.02Vp-p. (75 ohms terminated)

Procedura per la taratura
1) RT2301: regolare il livello di uscita video E-E su 1 +/- 0.02 Vpp (collegamento con 75 Ohm).

2) VHS Wiedergabepegel

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des Videoausgangspegels im VHS-Betrieb auf den spezifizierten Wert.
Fehler:
Korrekter Farbton und Helligkeit können nicht erreicht werden.

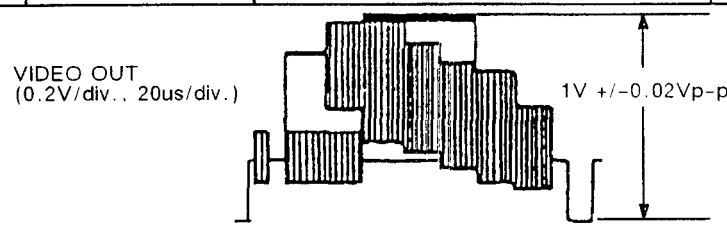
2) VHS Playback Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the video output level in the VHS mode to a specified value.
Fault:
The correct tint and brightness cannot be obtained.

2) Livello di riproduzione VHS

Apparizione errore con allineamento errato
Scopo: regolazione del livello di uscita video in funzionamento VHS sul valore prestabilito.
Errore:
Non si ottengono il tono colore e la luminosita' dovuti.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand des Videorecorders VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatoredi barre a colori	Buchse/Jack/Presa VIDEO IN	Farbbalkensignal aufzeichnen und mit diesem Gerät wiedergeben. Tracking-Einstellung: Mittelstellung VHS-Betrieb Record colour bar signal and play it back with this unit. Tracking Control: Centre VHS mode Registrare il segnale della striscia di colore e riprodurlo con questo apparechio. Regolazione tracking: posizione centrale. Funzionamento VHS.	RT2303
Oszilloskop Oscilloscope Oscilloscopio	VIDEO OUT		
Leerband (VHS) Blank tape (VHS) Nastro vuoto (VHS)			



Abgleichvorgang
1) RT2303: Den VHS Wiedergabepegel auf 1+/-0.02Vss einstellen. (Abschluß mit 75 Ohm)

Adjustment procedure
1) RT2303: Set the VHS playback level to 1+/-0.02Vp-p. (75 ohms terminated)

Procedura per la taratura
1) RT2303: regolare il livello di riproduzione VHS su 1 +/- 0.02 Vpp (collegamento di 75 Ohm).

3) S-VHS Wiedergabepegel

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des Videoausgangspegels im S-VHS-Betrieb auf den spezifizierten Wert.
Fehler:
Korrekter Farbton und Helligkeit können nicht erreicht werden.

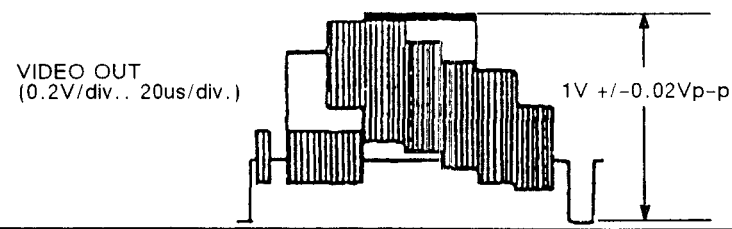
3) S-VHS Playback Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the video output level in the S-VHS mode to a specified value.
Fault:
The correct tint and brightness cannot be obtained.

3) Livello di riproduzione S-VHS

Apparizione errore con allineamento errato
Scopo: regolazione del livello di uscita video S-VHS sul valore prestabilito.
Errore:
Non si ottengono il tono colore e la luminosita' dovuti.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator Colour bar generator Generatoredi barre a colori	Buchse/Jack/Presa VIDEO IN	Farbbalkensignal aufzeichnen und mit diesem Gerät wiedergeben. Tracking-Einstellung: Mittelstellung S-VHS Betrieb Record colour bar signal and play it back with this unit. Tracking Control: Centre S-VHS mode Registrare il segnale della striscia di colore e riprodurlo con questo apparechio. Regolazione tracking: posizione centrale. Funzionamento S-VHS	RT2302
Oszilloskop Oscilloscope Oscilloscopio	VIDEO OUT		
Leerband (S-VHS) Blank tape (S-VHS) Nastro vuoto (S-VHS)			



Abgleichvorgang
1) RT2302: Den S-VHS Wiedergabepegel auf 1+/-0.02Vss einstellen. (Abschluß mit 75 Ohm)

Adjustment procedure
1) RT2302: Set the S-VHS playback level to 1+/-0.02Vp-p. (75 ohms terminated)

Procedura per la taratura
1) RT2302: regolare il livello di riproduzione S-VHS su 1 +/- 0.02 Vpp (collegamento di 75 Ohm).

4) SECAM-Detektorpegel

Fehlererscheinung bei Fehlabgleich
Zweck: Feineinstellung des SECAM-Killerpegels.
Fehler:
Die PAL/SECAM-Kennung arbeitet nicht korrekt.

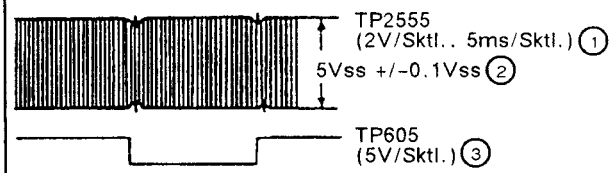
4) SECAM Detection Level

Purpose of adjustment and fault occurring if incomplete
Purpose: Fine tune the SECAM killer level.
Fault:
During automatic discrimination PAL and SECAM are discriminated incorrectly.

4) Livello detettore SECAM

Apparizione errore con allineamento errato
Scopo: Regolazione fine del livello killer SECAM.
Errore:
La identificatione PAL/SECAM non va bene.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Farbbalkengenerator * Colour bar generator * Generatore di barre a colori *	Buchse/Jack/Presa VIDEO IN	Betriebsart E-E E-E mode Funzionamento in modo E-E	RT2201 L2201
Oszilloskop Oscilloscope Oscilloscopio	CH-1: TP2555 CH-2: TP605 (SW25Hz)		
* (SECAM. volle Farbbalken) * (SECAM. full colour bars) * (SECAM. barre di colore piene)			



① 2V/div., 5ms/div.)
2V/parti di scala, 5ms/parti di scala
② 5Vp-p +/-0.1Vp-p
③ 5V/div.
5V/parti di scala

Abgleichvorgang

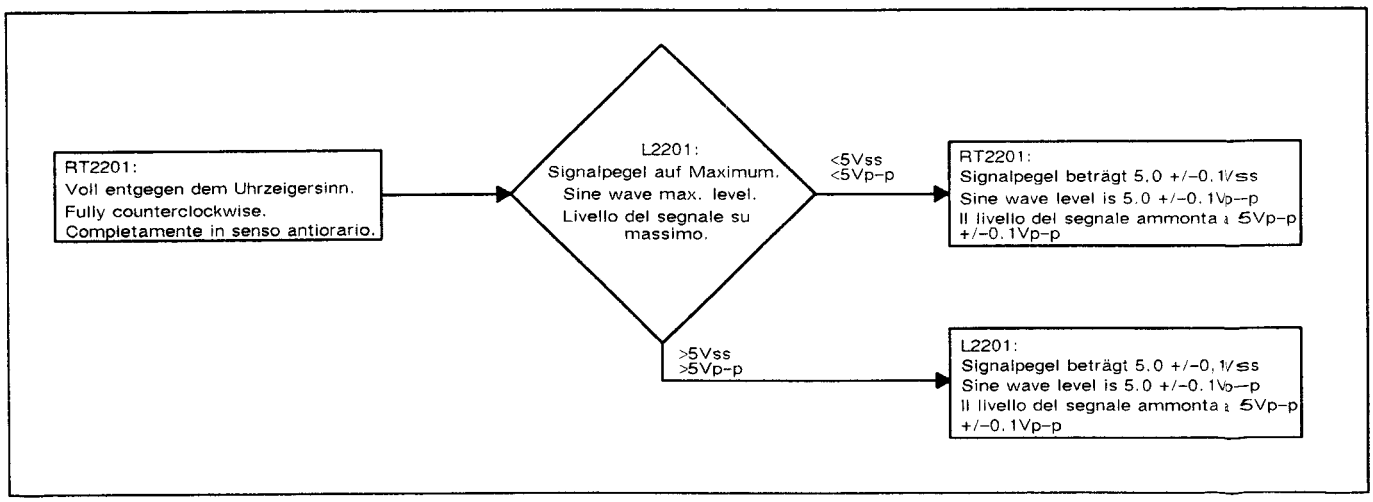
Oszilloskopeinstellungen:
* Triggerwahlschalter auf "-"
* Mit CH-2 triggern

Adjustment Procedure

Oscilloscope settings:
* Set sync slope switch to "-"
* Trigger with CH-2

Procedura per la taratura

Regolazione dell'oscilloscopio:
* Selettore dell'eccitatore: "-"
* Eccitare con CH-2



6. AUDIO

1) Trägerfrequenz-Abgleich

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung der Trägerfrequenz auf den festgelegten Wert.
Fehler:

* Eine Kompatibilität zu Bändern, die auf einem anderen VTR aufgenommen wurden, ist nicht erreichbar.
* Der HiFi-Ton wird nicht wiedergegeben.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Frequenzzähler Frequency counter Frequenzometro	TP501 (-> RT501L) TP502 (-> RT501R)	Aufnahmebetrieb REC mode Funzionamento in modo REC	RT501L (L-CH) RT501R (R-CH)

Abgleichvorgang
RT501L: Frequenzzähleranzeige1400 KHz +/-4 KHz an **TP501**.

RT501R: Frequenzzähleranzeige1800 KHz +/-4 KHz an **TP502**.

2) HiFi-Wiedergabepegel

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des HiFi-Audio-Wiedergabepegels auf den festgelegten Pegel.
Fehler:

* Die optimale Lautstärke kann nicht erreicht werden.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Elektron. Multimeter VTVM Multimetro elettronico HiFi-Abgleichband Hi-Fi alignment tape Nastro di taratura Hi-Fi	AUDIO OUT L (-> RT502L) AUDIO OUT R (-> RT502R)	HiFi-Abgleichband wiedergeben Play Hi-Fi alignment tape Riprodurre il nastro di allineamento Hi-Fi	RT502L (L-CH) RT502R (R-CH)

Abgleichvorgang
Hinweis: RT502L und RT502R auf die gleiche Weise einstellen.
Auf eine Multimeteranzeige von -4.8dBs +/-0.5dBs einstellen.

6. AUDIO

1) Carrier Frequency Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: To set audio carrier frequency to the specified value.
Fault:

* Compatibility with tapes recorded by another VTR cannot be obtained.
* Hi-Fi audio is not played back.

Adjustment Procedure
RT501L: The frequency counter reads 1400 kHz +/-4 kHz at **TP501**.

RT501R: The frequency counter reads 1800 kHz +/-4 kHz at **TP502**.

2) Hi-Fi Audio Playback Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the Hi-Fi audio playback level to the specified value.
Fault:

* The optimum volume cannot be obtained.

Adjustment Procedure
Note: Adjust RT502L and RT502R in the same way.
Set the reading of the VTVM to -4.8dbs +/-0.5dBs.

6. AUDIO

1) Livello di riproduzione Hi-Fi

Apparizione errore con allineamento errato
Scopo: Impostazione frequenza portante su valore prestabilito.
Errore:

* Non si riesce a ottenere compatibilita' con i nastri registrati su altri VTR.
* Non viene riprodotto l'audio Hi-Fi.

Procedura per la taratura
RT501L: indicazione contatore frequenza 1400 kHz +/-4 kHz. (**TP501**)

RT501R: indicazione contatore frequenza 1800 kHz +/-4 kHz. (**TP502**)

2) Livello di riproduzione Hi-Fi

Apparizione errore con allineamento errato
Scopo: Regolazione livello di riproduzione Hi-Fi su valore prestabilito.
Errore:

* Non si riesce a ottenere un volume ottimale.

Procedura per la taratura
Nota: Regolare allo stesso modo RT502L e RT502R.
Impostare con multimetro su -4.8dBs +/-0.5dBs.

3) Audio-Vormagnetisierung

Fehlererscheinung bei Fehlabgleich
Zweck: Einstellung des Audio-Vormagnetisierungspegels während der Aufnahme auf den optimalen Wert.
Fehler:

* Vormagnetisierung zu stark: Verschlechterung der höherfrequenten Wiedergabe.
* Vormagnetisierung zu schwach: Der Ton neigt zu Verzerrungen.

3) Audio Bias Level

Purpose of adjustment and fault occurring if incomplete
Purpose: To set audio bias during recording to optimum level.
Fault:

* Bias too high: High-frequency response deteriorates.
* Bias too low: Sound tends to be distorted.

3) Premagnetizzazione audio

Apparizione errore con allineamento errato
Scopo: Regolazione ottimale del livello della premagnetizzazione audio durante la registrazione.
Errore:

* Premagnetizzazione troppo forte: Pregiudicazione della riproduzione ad alte frequenze.
* Premagnetizzazione troppo debole: Il tono tende a distorcersi.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Elektron. Multimeter VTVM Multimetro elettronico Leercassette Blank tape Nastro vuoto	TP401 (BIAS) TP402 (BIAS GND)	Aufnahme ohne Signal Non-signal recording Registrazione senza segnale	RT401 (AUDIO BIAS LEVEL)

Abgleichvorgang
RT401: 3.3mVeff. +/-0.1mVeff Multimeteranzeige.

Adjustment Procedure
RT401: The VTVM reads 3.3mVrms +/- 0.1mVrms

Procedura per la taratura
RT401:avvertenza tester: 3.3mVeff. +/-0.1mVeff.

7. BILDSCHIRMDIALOG (OSD)

1) AFC fH-Einstellung

Fehlererscheinung bei Fehlabgleich
Zweck: Die AFC-Frequenz auf 15625 Hz einstellen.
Fehler:
Gestörte OSD-Zeichen.

7. ON SCREEN DISPLAY CIRCUIT

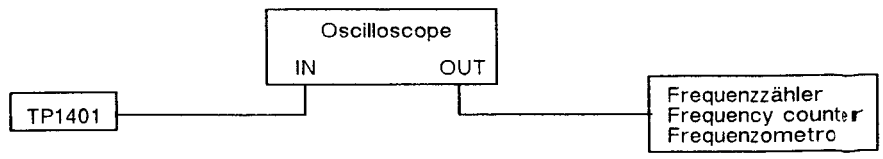
1) AFC fH Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the AFC oscillation to 15625Hz.
Fault:
OSD characters are flowed.

7. DIALOGO SULLO SCHERMO

1) Regolazione della frequenza AFC

Apparizione errore con allineamento errato
Scopo:regolazione della frequenza AFC su 15625 +/-50Hz.
Errore:
Simbolo OSD disturbato.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	TP1401 TP1403 (GND)	Betriebsart OSD-Menü, E-E-Betrieb OSD menu mode, E-E mode Modo di funzionamento menu OSD, funzionamento E-E	RT1421
Frequenzzähler Frequency counter Frequenzometro	Oszilloskop-Ausgang Oscilloscope output Uscita dell'oscilloscopio		
			

Abgleichvorgang
RT1421: Frequenzzähleranzeige auf 15625+/-50Hz einstellen.

Adjustment Procedure
RT1421: The frequency counter reads 15625+/-50Hz.

Procedura per la taratura
RT1421: regolare l'indicatore conteggio frequenza su 15625 +/-50Hz.

8. TIMER-LEITERPLATTE

1) Pegelanzeige-Einstellung

Fehlererscheinung bei Fehlabgleich
Zweck: Korrekter Betrieb der Pegelanzeige.
Fehler:
Die Pegelanzeige funktioniert nicht normal.

8. TIMER CIRCUIT

1) Level Meter Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: To make the level meter operate correctly.
Fault:
The level meter does not operate normally.

8. SCHEDA TIMER

1) Regolazione indicazione livello

Apparizione errore con allineamento errato
Scopo: funzionamento esatto dell'indicatore di livello.
Errore:
L'indicazione di livello non funziona regolarmente.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliaril	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
NF-Generator CR oscillator Generatore BF	AUDIO IN L-CH	Betriebsart LINE (Audio-Pegel: Position 5) LINE mode (AUDIO LEVEL: Positio 5) Funzionamento LINE (Livello audio: Posizione 5)	TRACKING ▼/▲ - und STOP-Tasten TRACKING ▼/▲ and STOP buttons Bottone TRACKING ▼/▲ e STOP
Multimeter VTVM Multimetro	AUDIO OUT L-CH		

Abgleichvorgang

1) Ein Multimeter an die AUDIO OUT Buchse anschließen.
2) NF-Generator an die Buchse AUDIO IN anschließen.
3) Pegel des NF-Generators so einstellen. daß eine Anzeige von -4.8 bis -5.3dBs auf dem Multimeter erfolgt. Signalfrequenz: 1KHz.
4) Die STOP-Taste drücken und halten (mehr als eine Sekunde lang) während gleichzeitig beide TRACKING-Tasten (▼/▲) auf der Fernbedienung niedergedrückt gehalten werden. Die 0dB-Segmente der Pegelanzeige sollen dann aufleuchten.
5) Die AUDIO LEVEL (Aufnahmepegel)-Regler auf Minimum stellen. Prüfen. ob die -40dB-Segmente der Pegelanzeige noch nicht leuchten.
6) Kann obiger Zustand nicht erreicht werden. muß Neuabgleich erfolgen und danach ist IC702 (EAROM) zu kontrollieren.

Adjustment Procedure

1) Connect a VTVM to the AUDIO OUT jack.
2) Connect a CR oscillator to the AUDIO IN jack.
3) Adjust the audio output of the CR oscillator so the VTVM reads -4.8 to -5.3dBs. The frequency should be 1kHz.
4) Press and hold the STOP button (for more than one second) while simultaneously holding both TRACKING buttons (▼/▲) of the remote control depressed and check that the 0dB segments of the level meter light.
5) Set the AUDIO LEVEL (REC Volume) controls to minimum and check that the -40dB segments of the level meter do not light.
6) If the above cannot be confirmed. perform readjustment and then check IC702 (EAROM).

Procedura per la taratura

1) Collegare un multimeter alla presa AUDIO OUT.
2) Collegare un generatore BF alla presa AUDIO IN.
3) Regolare il livello del generatore BF in modo che il multimeter indichi da -4.8 a -5.3dBs. Frequenza segnale: 1 kHz.
4) Tener premuto il tasto STOP (per piu' di un secondo) e i due tasti TRACKING (▼/▲) sul telecomando.
   I segmenti 0dB dell'indicatore di livello devono illuminarsi.
5) Posizionare sul minimo il regolatore AUDIO LEVEL (livello di registrazione). Controllare se i segmenti -40dB dell'indicatore di livello non sono ancora illuminati.
6) Se non si ottengono le condizioni suddette. si deve effettuare una nuova taratura e poi controllare l'IC702 (EAROM).

MECHANIK

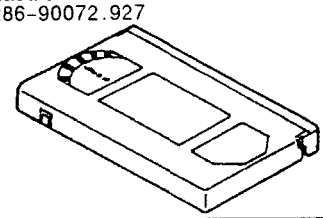
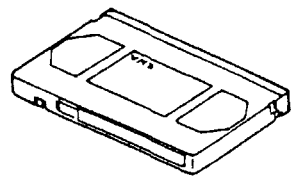
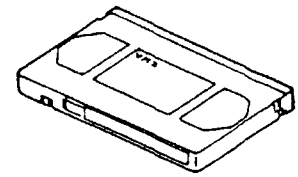
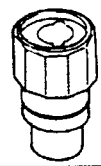
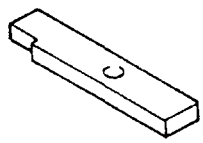
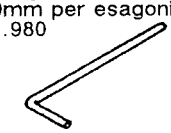
MECHANISM

PARTE MECCANICA

WERKZEUGE UND BÄNDER FÜR DEN ABGLEICH

JIGS AND TAPES FOR ADJUSTMENT

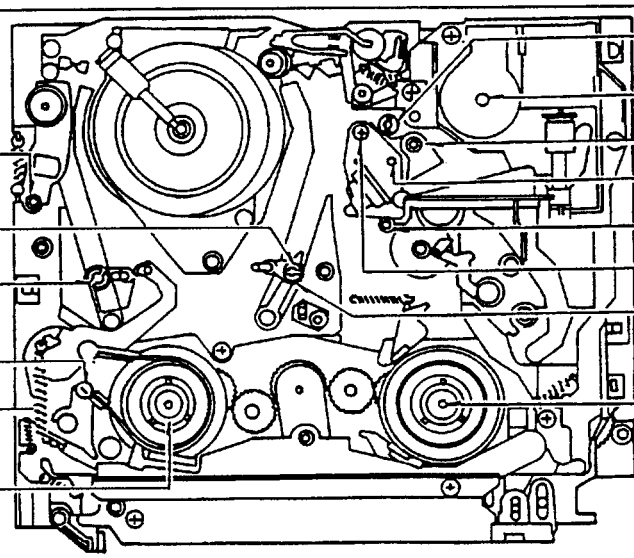
ATTREZZI E NASTRI PER LA TARATURA

1. Bandzug-Meßcassette Back Tension Meter Cassetta di misurazione di trazione nastro 286-90072.927 	2. Abgleichband MH-2 Alignment Tape MH-2 Nastro di taratura MH-2 486-90072.933 	3. HiFi-Abgleichband 36HMAFE-3-1 Hi-Fi Alignment tape 36HMAFE-3-1 Nastro di taratura Hi-Fi 486-90113.923 
4. Hauptmeßlehre Master Plane Calibro principale 286-90130.930 	5. Drehmomentmesser Torque Gauge Dinamometro 286-90072.929 	6. Adapter für Drehmomentmesser Torque Gauge Adaptor Adattore per dinamometro 286-90072.930
7. Wickeltellerhöhenmeßlehre Reel Disk Height Jig Calibro d'altezza disco 286-90150.983 	8. Inbusschlüssel 1.5mm 1.5mm Hexagonal Wrench Chiave 1.5mm per esagoni cavi 286-90150.967 Inbusschlüssel 0.9mm 0.9mm Hexagonal Wrench Chiave 0.9mm per esagoni cavi 286-90152.980 	

ABGLEICH-LAGEPLAN

ADJUSTMENT PARTS LOCATIONS

SCHEMA DI TARATURA



1) Abwickelseitige Führungsstift-Höheneinstellmutter
Dado di regolazione in altezza della spina di guida sul lato di svolgimento
2) Führungsrollen-Befestigungsinbusschrauben
Viti ad esagono cavo per il bloccaggio dei rulli di guida
3) Abwickelseitige Führungsrollen-Höheneinstellschraube
Vite di regolazione in altezza dei rulli di guida sul lato di svolgimento
4) Bandzug-Positionseinstellung
Regolazione della posizione di trazione nastro
5) Bandzug-Einstellfeder
Molla di regolazione della trazione nastro
6) Abwickelseitige Wickelteller-Höhenjustage
Regolazione in altezza del piattello sul lato di svolgimento
7) X-Wert-Einstellschraube
Vite di regolazione del valore X
8) Laufwerk-Statusschalter
Interruttore di stato
9) A/C-Kopf-Höheneinstellmutter
Dado per la regolazione in altezza della testa A/C
10) A/C-Kopf-Neigungseinstellschraube
Vite di regolazione dell'inclinazione della testa A/C
11) Aufwickelseitige Führungsstift-Höheneinstellmutter
Dado di regolazione in altezza della spina di guida sul lato di avvolgimento
12) A/C-Kopf-Azimut-Abgleichschraube
Vite di taratura azimutale della testa A/C
13) Aufwickelseitige Führungsrollen-Höheneinstellschraube
Vite di regolazione in altezza dei rulli di guida sul lato di avvolgimento
14) Aufwickelseitige Wickelteller-Höhenjustage
Regolazione in altezza del piattello sul lato di avvolgimento

MECHANISCHE EINSTELLUNGEN

1) Laufwerk-Statusschalter

Zweck: Korrekte Erkennung des mechanischen Betriebszustands und Verhinderung von Fehlfunktionen.

MECHANICAL ADJUSTMENTS

1) Mechanism State Switch

Purpose: To detect the mechanism state correctly and prevent malfunctions.

REGOLAZIONI MECCANICHE

1) Interruttore meccanico di modo

Scopo: Corretta identificazione della funzione ed esclusione di funzioni errate.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Leercassette Blank tape Nastro vuoto		Betriebsart EJECT (Cassette ausgeworfen) EJECT mode (with the cassette ejected) Modo operativo EJECT (cassetta espulsa)	Laufwerk-Statusschalter Steuerkurvenrad Mechanism state switch Mode gear Interruttore di stato Disco a curve

Abgleichvorgang

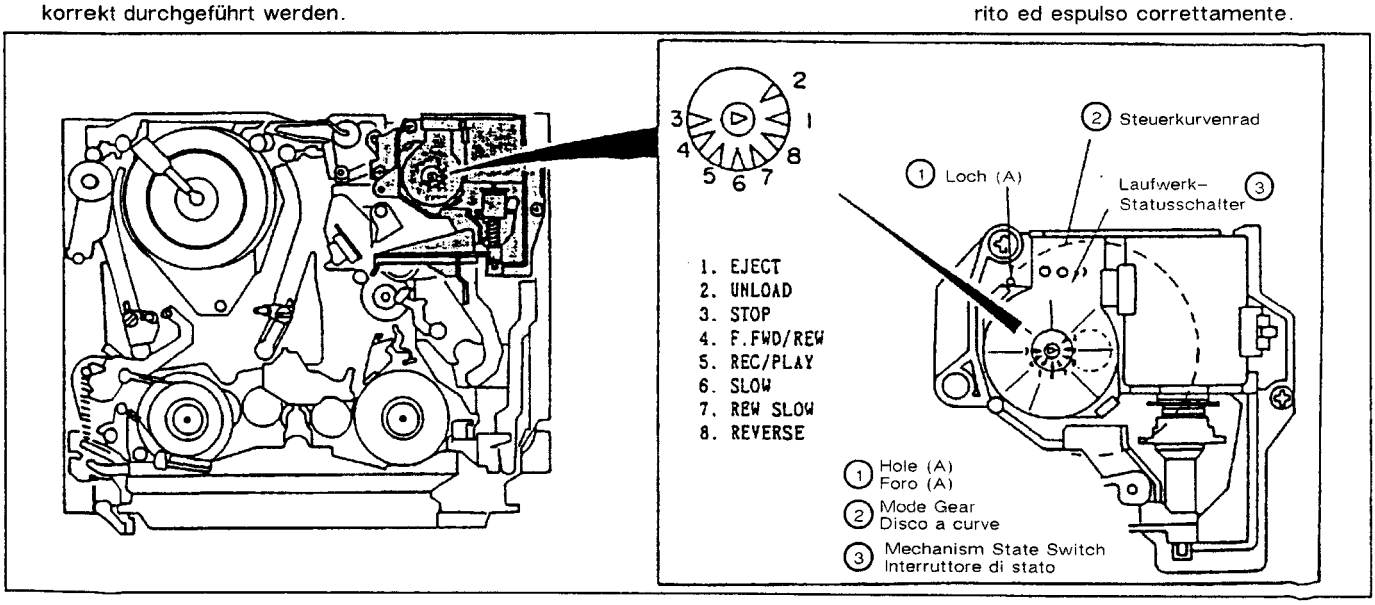
1) Nachprüfen, ob der Pfeil auf der Achse des Laufwerk-Statusschalters auf den Pfeil der Mechanischen Betriebszustandskennziffer 1 zeigt! Ebenso nachprüfen, ob das Loch (A) neben dem Laufwerk-Statusschalter und das Loch im Steuerkurvenrad aufeinander ausgerichtet sind.
2) Werden die obigen Einstellungen nicht erreicht, dann wie folgt justieren.
   1. Laufwerk-Statusschalter mit komplettem Fädelmotor entfernen.
   2. Das Steuerkurvenrad bewegen, um die Position von Loch (A) auszurichten.
   3. Das Zahnrad auf der Rückseite des Laufwerk-Statusschalters drehen, damit der Pfeil auf der Achse des Schalters auf den Pfeil der Mechanischen Betriebszustandskennziffer 1 zeigt.
   4. Laufwerk-Statusschalter mit komplettem Fädelmotor im obigen Zustand wieder einbauen.
3) Eine Leercassette laden und verschiedene Operationen durchführen, um festzustellen, ob Ein- und Ausfädeln korrekt durchgeführt werden.

Adjustment Procedure

1) Check that the arrow on the centre shaft of the mechanism state switch points to the arrow of mechanism mode indication number 1. Also check that hole (A) beside the mechanism state switch and the hole in the mode gear are aligned.
2) If the above alignments are not obtained, adjust as follows.
   1. Remove the mechanism state switch/loading motor assembly.
   2. Move the mode gear to align the position of hole (A).
   3. Turn the gear on the back of the mechanism state switch so that the arrow on the centre shaft of the switch points to the arrow of mechanism mode indication number 1.
   4. Reinstall the mechanism state switch/loading motor assembly in the above condition.
3) Load a blank tape and perform various operations to check that loading and unloading are performed correctly.

Procedura per la taratura

1) Accertarsi che la freccia riportata sull'asse dell'interruttore di stato dell'unita' di trasporto indichi verso la freccia dell'indice 1 del funzionamento meccanico! Accertarsi anche che il foro (A) accanto all'interruttore di stato dell'unita' di trasporto e il foro della rotella delle curve di controllo siano allineati fra di loro.
2) Se non si ottiene questo posizionamento, aggiustare come segue.
   1. Estrarre il selettore meccanico con il motore inserimento nastro.
   2. Muovere il disco a curve per orientare il foro (A).
   3. Ruotare la ruota dentata sul retro dell'interruttore di stato dell'unita' di trasporto affinche' la freccia che si trova sull'asse dell'interruttore indichi verso la freccia dell'indice 1 delle condizioni di funzionamento meccanico.
   4. Rimontare il commutatore meccanico ed il motore di inserimento nastro. Verificare le condizioni prescritte.
3) Inserire una videocassetta non registrata e verificare il nastro sia inserito ed espulso correttamente.



Bandlaufsystem

Das Bandlaufsystem transportiert das Band vom Vorratsteller über die Videoköpfe zum Aufwickelteller. Die zum Bandlaufsystem gehörenden Teile müssen absolut sauber sein, besonders diejenigen Teile, die das Band berührt! Diese Teile müssen frei von Kratzern, Staub und Öl sein.
Vor dem Versand wurde das Bandlaufsystem justiert. Werden Teile im Transportsystem ersetzt, sind daher nur die neuen Teile korrekt zu justieren!

Tape Transport System

The tape transport system is the path from the supply reel disk passing through the video heads to the take-up reel disk. The transport system parts, especially the parts which directly come into contact with a tape, should be kept clean without scratches, dust oil, etc.
The tape transport system has been adjusted before the unit is shipped from the factory. Therefore, when parts in the transport system are replaced, the transport system is stabilized by only adjusting the new parts correctly.

Sistema di trasporto nastro

Il ruotismo trasporta il videonastro dal disco di scorta al disco di avvolgimento, attraverso le testine video. I pezzi che appartengono al ruotismo devono essere assolutamente puliti, in particolare tutti questi pezzi che vengono in contatto con il nastro! Questi pezzi non devono avere graffi e devono essere liberi da polvere ed olio.
Il sistema di scorrimento del nastro e' stato messo a punto prima della spedizione. Se si sostituiscono parti di questo dispositivo, devono essere regolate solo le medesime.

1. Wickeltellerhöhenjustage

Zweck: Festlegung der korrekten Bandhöhe durch Einstellung der Wickeltellerhöhe auf den erforderlichen Wert.

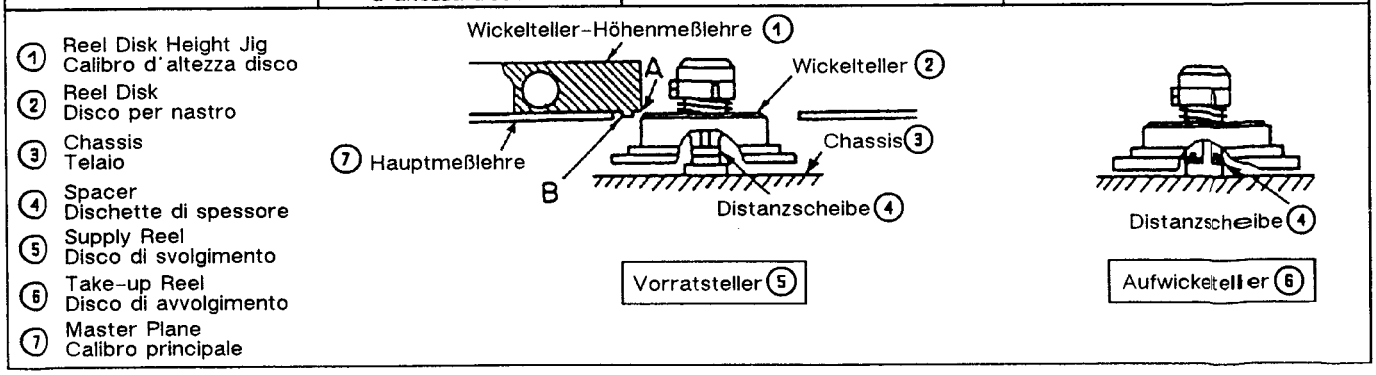
1. Reel Disk Height Adjustment

Purpose: To set the reels of the cassette to the specified height, thus determining the height of tape.

1. Altezza del disco per nastro

Scopo: Stabilere l'esatta altezza del nastro regolando l'altezza del disco per nastro secondo il valore dato.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Master Plane Reel disk height jig Calibro principale Calibro d'altezza disco	1) Cassettenlademechanismus entfernen. 2) Hauptmeßlehre einsetzen und Wickeltellerhöhenmeßlehre darauf aufsetzen. 1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it. 1) Togliere il meccanismo di carica cassetta 2) Montare il calibro di misurazione principale e porvi sopra il calibro d'altezza disco		Einsetzen/Herausnehmen von Abstandsscheiben unter den Wickeltellern. Spacers in the supply and take-up reel disks. Montare/togliere le rosette sotto al disco per nastro.



Abgleichprozedur

1) Darauf achten, daß der Wickelteller genau zwischen die Punkte A und B der Wickelteller-Höhenmeßlehre zeigt.
2) Zeigt der Wickelteller nicht zwischen die Punkte A und B, dann die Abstandsscheiben des Wickeltellers austauschen oder deren Anzahl ändern. (0.2mm dick)

Achtung! Wurde der Bandzughebel / das Bremsband entfernt, müssen die Spannstiftposition und der Bandzug neu eingestellt werden.

Adjustment Procedure

1) Check that the reel disk is between sections A and B of the reel disk height jig.
2) If the disk is not between sections A and B of the jig, replace the spacers (0.2mm thick) in the reel disk or adjust them.

Caution.
When the tension arm and tension band are removed, adjust the tension pole position and tension after reinstalling them.

Procedura per la taratura

1) Fare attenzione che il disco per nastro sia esattamente tra i punti A e B del calibro d'altezza disco.
2) Se il disco per nastro non si trova esattamente tra i puntiA e B, scambiare i dischetti di spessore del disco per nastro oppure cambiarne il numero (0.2mm).

Attenzione. Se il braccio di tensione/nastro di tensione e' stato eliminato, la posizione dell'asta di tensione e il tragino del nastro devono venire nuovamente regolati.

2. Bandzug, Spannstiftposition

Zweck: Zur Herstellung eines konstanten Bandzuges. damit der Kontakt zwischen Videoköpfen und Band stabil bleibt.

2. Tension Pole Position, Tension

Purpose: To make the tension of tape constant so that the contact between the video heads and tape is stabilized.

2. Trazione nastro, posizione spina di tensione

Scopo: Tensionamento costante del nastro per un contatto continuo con le testine video.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Positionsabgleich Position adjustment Regolazione della posizione		1) Gehäuseoberteil entfernen. 2) Den VTR in den eingefädelten Zustand ohne Cassette versetzen (siehe 9.) 1) Remove the top cover. 2) Operating the VTR without inserting a cassette tape. (see 9.) 1) Smontare il pannello superiore della custodia 2) Portare il VTR nello stato inserito senza cassetta (vedi 9.)	Positionseinstellung: Bremsbandhalterung Position adjustment: Tension band holder Regolazione della posizione: Supporto freno nastro
Bandzug-Meßcassette Back Tension Meter Cassetta di misurazione di trazione nastro		Bandzug-Einstellung: 3) Bandzugcassette laufen lassen. Tension adjustment: 3) Play the tension cassette. Regolazione trazione nastro: 3) Lasciare funzionare la cassetta trazione nastro.	Bandzugeinstellung: Einhängeposition der Bandzugfeder Tension adjustment: Tension spring hooking position Regolazione della trazione: Gancio della molla di tensione

Abgleichvorgang

- Positionseinstellung -

1) Einen Schraubendreher mit flacher Klinge in den Schlitz für die Bandzug-Positionseinstellung einsetzen und den Abstand zwischen Spannhebel und Chassis auf 0 bis 1mm einstellen.
2) Nach der Einstellung nochmal einen Ladevorgang ohne Cassette durchführen und die Position des Spannstifts erneut prüfen.

- Bandzugeinstellung -

Ablesewert der Bandzugmeßcassette: 34 - 44 gcm (Referenzwert)
Ist der Bandzug größer als der Referenzwert. dann die Feder in Richtung (A) versetzen. Ist der Wert dagegen kleiner. dann die Feder in Richtung (B) verschieben.
Achtung! Wird eine Korrektur von 6gcm oder mehr notwendig. dann muß anschließend die Position des Spannstifts kontrolliert und gegebenenfalls neu eingestellt werden (Abgleich wiederholen).

Adjustment procedure

- Position Adjustment -

1) Insert a flat bladed screwdriver into the groove for the tension position adjustment and set the clearance between the tension arm and chassis to 0 to 1mm.
2) After adjustment is completed. perform loading without inserting a cassette and recheck the tension pole position.

- Tension Adjustment -

Reading of tension cassette:
34 to 44 g-cm. (reference value)
If the reading is higher than the reference. move the spring in direction (A).
If the reading is lower than the reference. move the spring in direction (B).
Caution: When the tension is changed greatly (more than 6 g-cm). recheck the tension pole position. If it is drifted. readjust the tension pole position and tension.

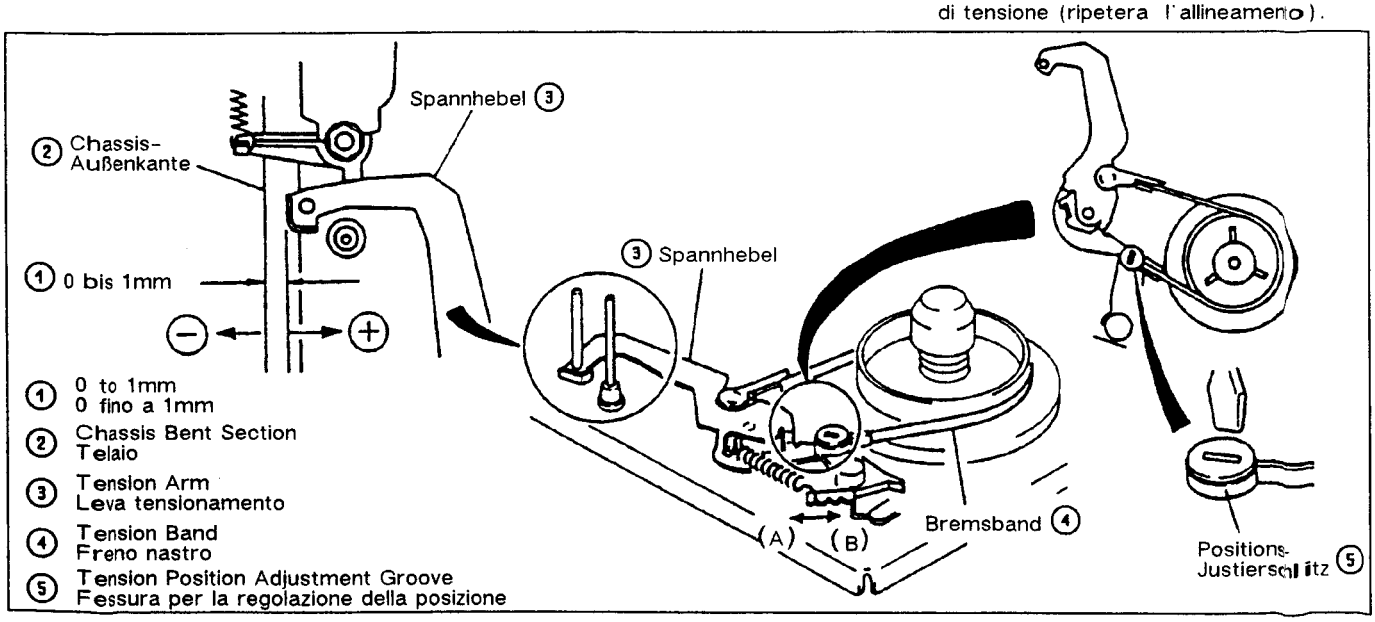
Procedura per la taratura

- Regolazione della posizione -

1) Inserire un cacciavite a lama piatta nella fessura per la regolazione della posizione di trazione nastro e regolare la distanza fra leva di bloccaggio e chassis su 0 - 1mm.
2) Dopo la regolazione eseguire ancora un processo di caricamento senza cassetta e controllare la posizione dell'asta di tensione.

- Regolazione trazione nastro -

Valore di lettura della cassetta di misurazione di trazione nastro: 34 - 44g-cm (valore di riferimento)
Se la trazione del nastro e' maggiore del valore di riferimento. spostare la molla in direzione (A). Se il valore e' invece minore.spostare la molla in direzione (B).
Attenzione! Se e' necessaria una correzione maggiore di 6g-cm. e' necessario in seguito controllare ed eventualmente nuovamente regolare la posizione dell'asta di tensione (ripetera l'allineamento).



3. Bandführungsstift-Höhe

Zweck: Einstellung der Magnetbandhöhe.

3. Guide Poles Height

Purpose: To regulate the tape height.

3. Altezza dell'asta guida nastro

Scopo: Regolazione dell'altezza del nastro magnetico.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Master Plane Reel disk height jig Calibro principale Calibro d'altezza disco	1) Cassettenlademechanismus entfernen. 2) Hauptmeßlehre einsetzen und Wickeltellerhöhenmeßlehre darauf aufsetzen. 1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it. 1) Togliere il meccanismo di carica cassetta 2) Montare il calibro di misurazione principale e porvi sopra il calibro d'altezza disco		Die Justagemuttern der Bandführungsstifte (Aufwickel/Abwickelseite) einstellen. Nuts on the supply and take-up guide poles. Regolare i dadi di aggiustaggio dell'asta guida-nastro (lato di avvolgimento e di svolgimento).
Leercassette Blank tape Nastro vuoto		Wiedergabebetrieb Play mode Funzionamento in modo Playback	

Abgleichvorgang

1) Spalt zwischen Unterkante des oberen Bandführungsstift-Flansches und Oberkante der Wickelteller-Höhenmeßlehre auf 0 bis 0.2mm einstellen.
2) Leercassette laden und abspielen. Das Band darf hierbei nicht über den oberen oder unteren Flansch des Bandführungsstifts gleiten.
3) Gleitet das Band über einen der Führungsstiftflansche, muß die Führungsstifthöhe wie folgt eingestellt werden:

Gleitet das Band über den oberen Flansch, dann die Mutter entgegen dem Uhrzeigersinn verdrehen. Gleitet das Band über den unteren Flansch, dann die Mutter im Uhrzeigersinn drehen.

Adjustment Procedure

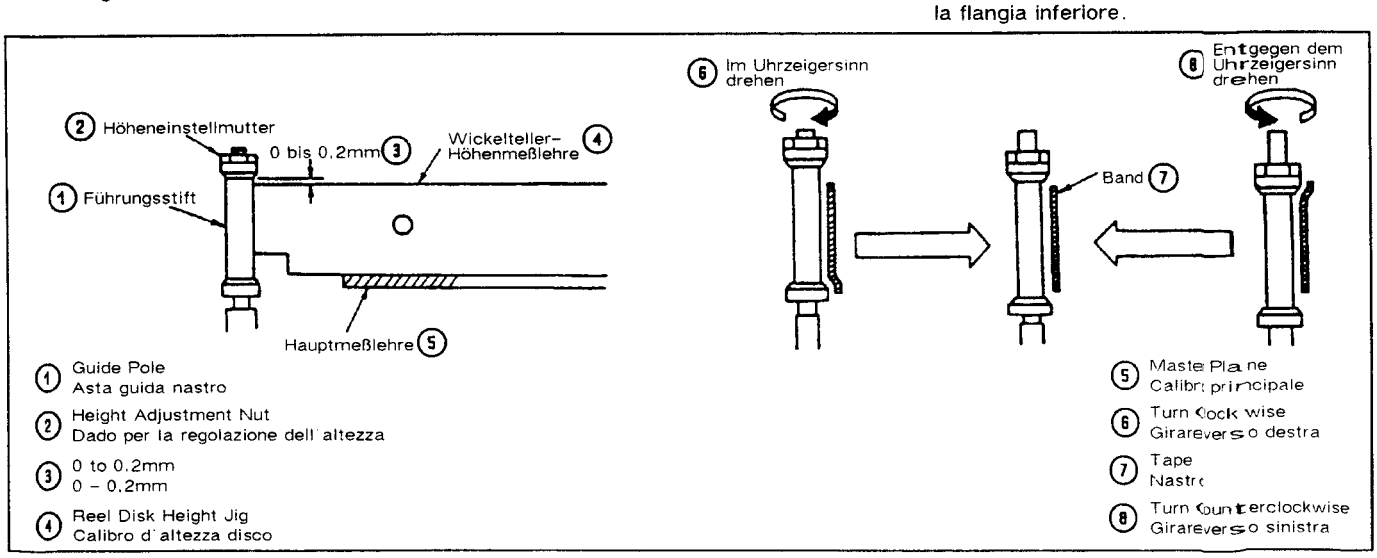
1) Set the clearance between the bottom of the guide pole's upper flange and top of reel disk height jig is 0 to 0.2mm.
2) Load a blank tape to run it and check that the tape does not ride over the upper and lower flanges of the guide pole.
3) If the tape rides over either flange, adjust the height of guide pole as follows.

If the tape rides over the upper flange, turn the nut counterclockwise. If the tape rides over the lower flange, turn the nut clockwise.

Procedura per la taratura

1) Impostare la fessura fra il bordo inferiore della flangia superiore della spina guidanastro e il bordo superiore del calibro di misura altezza del disco di avvolgimento su 0-0.2mm.
2) Caricare una cassetta vuota e avviare in riproduzione. Il nastro non deve scorrere ne' sulla flangia inferiore ne' su quella superiore del perno guida.
3) Se il nastro scorre su una delle flange della spina di guida, si deve impostare l'altezza della spina di guida come segue:

Girare il dado verso sinistra, se il nastro e' spostato verso la flangia superiore. Girare verso destra se il nastro e spostato verso la flangia inferiore.



4. Bandführungsrollen-Höhe

Zweck: Einstellung der Magnetbandhöhe. damit die Bandunterkante entlang der Führung der Videokopftrommel läuft.

4. Guide Rollers Height

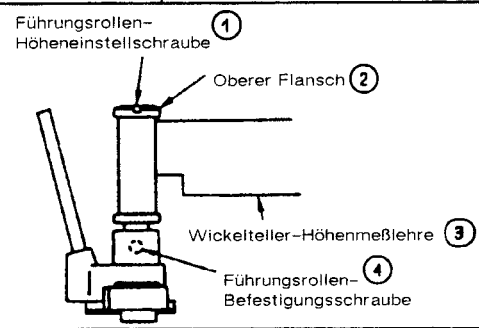
Purpose: To regulate the tape height so that the bottom of tape runs along the tape guide line on the cylinder.

4. Altezza rulli guida nastro

Scopo: Regolazione dell'altezza del nastro magnetico in modo che l'estremita' inferiore del nastro scorra lungo la guida del tamburo della testina video.

Grobabgleich / Coarse Adjustment / Regolazione approssimativa

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Inbusschlüssel 0.9mm Master Plane Reel disk height jig 0.9mm hexagonal wrench Calibro principale Calibro d'altezza disco Chiave 0.9mm per esagoni cavi	1) Cassettenlademechanismus entfernen. 2) Hauptmeßlehre einsetzen und Wickeltellerhöhenmeßlehre darauf aufsetzen. 1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it. 1) Togliere il meccanismo di carica cassetta 2) Montare il calibro di misurazione principale e porvi sopra il calibro d'altezza disco		Die Schrauben zur Höheneinstellung der Bandführungsrollen (Abwickelseite/Aufwickelseite) justieren. Height adjustment screws on the supply and take-up guide rollers. Aggiustare le viti per la regolazione dell'altezza del rullo guida-nastro (lato di avvolgimento e lato di svolgimento).



① Guide Roller Height Adjustment Screw
Vite per la regolazione dell'altezza del rullo
② Upper Flange
Flangia superiore
③ Reel Disk Height Jig
Calibro d'altezza disco
④ Guide Roller Retaining Screw
Vite di fissaggio del rullo guida nastro

Abgleichvorgang

1) Die Bandführungsrollen-Sicherungsschraube soweit lockern. daß sich die Rolle während des Ein-/Ausfädelns und Playback nicht verstellt.
2) Die Unterkante des oberen Flanschs der Bandführungsrolle und die Oberkante der Wickelteller-Höhenmeßlehre aufeinander ausrichten.
3) Jetzt den Präzisionsabgleich durchführen.

Adjustment Procedure

1) Loosen the guide roller retaining screw (so that the guide roller does not turn during loading. unloading and play).
2) Align the bottom of guide roller's upper flange and the top of the reel disk height jig.
3) Perform the precise adjustment continuously.

Procedura per la taratura

1) Allentare la vite di fissaggio del rullo guida nastro in modo che questo non si sposti durante l'inserimento/estrazione e durante il Playback.
2) Allineare il bordo inferiore della flangia superiore del rullo guidanastro con il bordo superiore del calibro di altezza del piatto di svolgimento.
3) Eseguire la taratura di precisione.

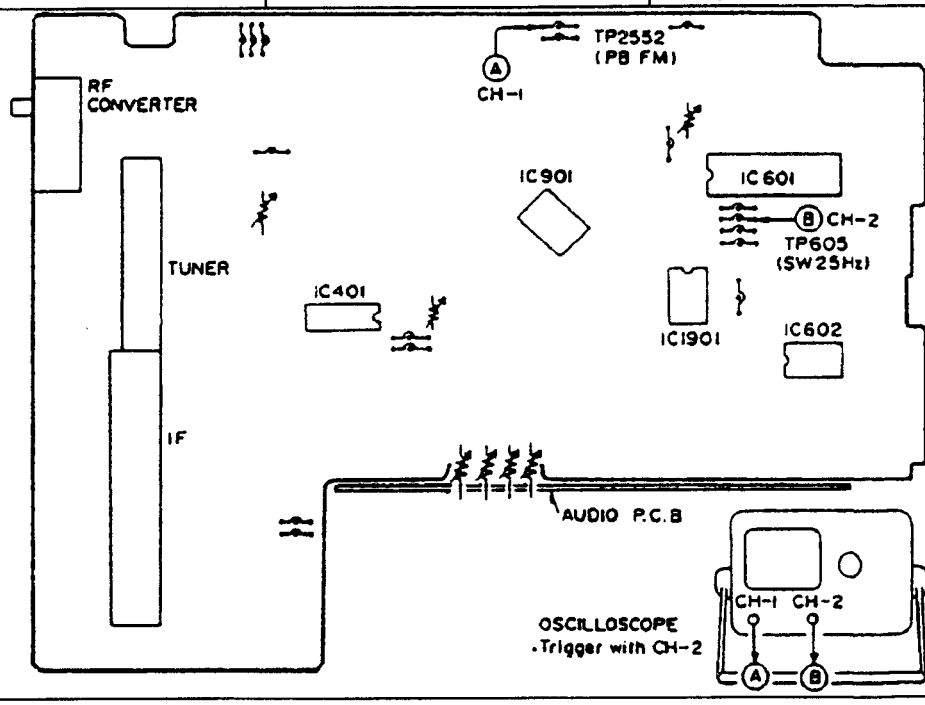
Feineinstellung — Precise Adjustment — Regolazione fine

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausillarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	CH-1: TP2552 (PB FM) CH-2: TP605 (SW25Hz)	Abgleichband wiedergeben (Farbbalken). Play alignment tape (Colour bars). Riprodurre nastro di allineamento (segnale di barre colorata)	Bandführungsrollen-Höheneinstellschraube Guide roller height adjustment screws Vite di regolazione altezza rullo guida-nastro
Abgleichband Alignment tape Nastro di taratura			
Inbusschlüssel 0.9mm 0.9mm hexagonal wrench Chiave 0.9mm per esagoni cavi			

Einstellung des Oszilloskops:
Mit CH-2 triggern

Setting:
Trigger with CH-2

Regolazione dell'oscilloscopio:
Eccitare con CH-2



Abgleichvorgang

1) Tracking-Regelung: Auto-Tracking-Betrieb (Wird dieser Abgleich nach dem Kopftrommelaustausch durchgeführt, dann die Tracking-Regelung so einstellen, daß das FM-Signal auf Maximum gebracht wird.)
2) Höheneinstellschraube: FM-Signal linearisieren.
3) Die Tracking-Tasten UP und DOWN drücken.
4) Sicherstellen, daß die FM-Signaleinbrüche am Anfang und Ende der FM-Hüllkurve gleichmäßig sind.
5) Sicherungsschraube festziehen.

Adjustment Procedure

1) Tracking control: Auto tracking mode (when this adjustment is performed after the cylinder has been replaced, set the tracking control so that the FM output is maximum.)
2) Height adjustment screw: Flatten the FM envelope.
3) Press the tracking control up and down buttons.
4) Check that the FM drops at the start and end of FM envelope are uniform.
5) Tighten the guide roller retaining screw.

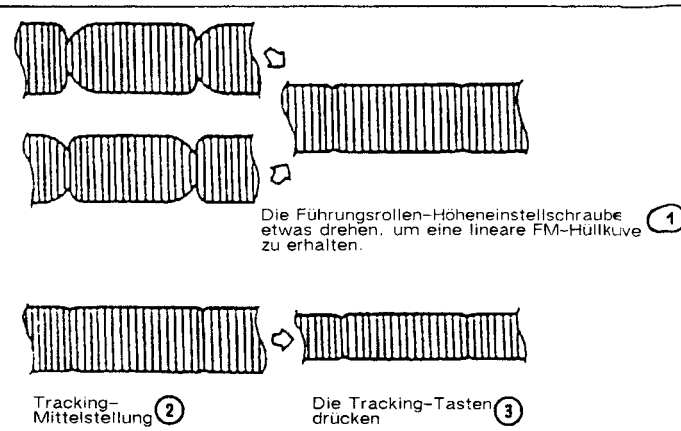
Procedura per la taratura

1) Regolazione tracking: funzionamento tracking automatico (se questo allineamento viene eseguito dopo la sostituzione del tamburo della testina, eseguire la regolazione del tracking in modo tale da portare il segnale MF al massimo.)
2) Vite di regolazione in altezza: linearizzare il segnale MF.
3) Premere i pulsanti di tracking UP e DOWN.
4) Verificare che la caduta di segnale MF all'inizio e alla fine della curva avvolgente di banda MF sia simmetrica.
5) Serrare la vite di sicurezza.

① Turn the guide roller adjustment screw slightly to flatten the FM envelope.
Ruotare un poco la vite di regolazione altezza dei rulli di guida per ottenere una curva d'inviluppo lineare.

② Tracking control at centre.
Posizione centrale traccia tracking.

③ Press the tracking control buttons.
Premere i pulsanti di tracking.



5. A/C-Kopf

Zweck: Gleichmäßigen Kontakt zwischen Band und Kopf ermöglichen. um auf der vorgeschriebenen Spur aufzunehmen und wiederzugeben.

5. Audio/Control (A/C) Head

Purpose: To keep the contact between the tape and head even so the specified track is recorded and played back.

5. Testa A/C

Scopo: Rendere possibile un contatto regolare tra nastro e testina per registrare e riprodurre sulla traccia prevista.

Grobabgleich | **Coarse Adjustment** | **Regolazione approssimativa**

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Inbusschlüssel 1.5mm	1) Cassettenlademechanismus entfernen. 2) Hauptmeßlehre einsetzen und Wickeltellerhöhenmeßlehre darauf aufsetzen.		A/C-Kopfbefestigungsschraube Azimut-Einstellschraube Höheneinstellmutter Inbusschraube zur Neigungseinstellung
Master Plane Reel disk height jig 1.5 mm hexagonal wrench	1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it.		A/C head retaining screw Azimuth adjustment screw Height adjustment nut Tilt adjustment screw
Calibro principale Calibro d'altezza disco Chiave 1.5mm per esagoni cavi	1) Togliere il meccanismo di carica cassetta. 2) Montare il calibro di misurazione principale e porvi sopra il calibro d'altezza disco		Vite di fissaggio della testa A/C Vite registrazione angolo azimutale Dado di registrazione in altezza Vite a esagono cavo dell'inclinazione
Leercassette Blank tape Nastro vuoto		Leercassette abspielen. Run blank tape. Riprodurre il nastro vuoto.	

Abgleichvorgang

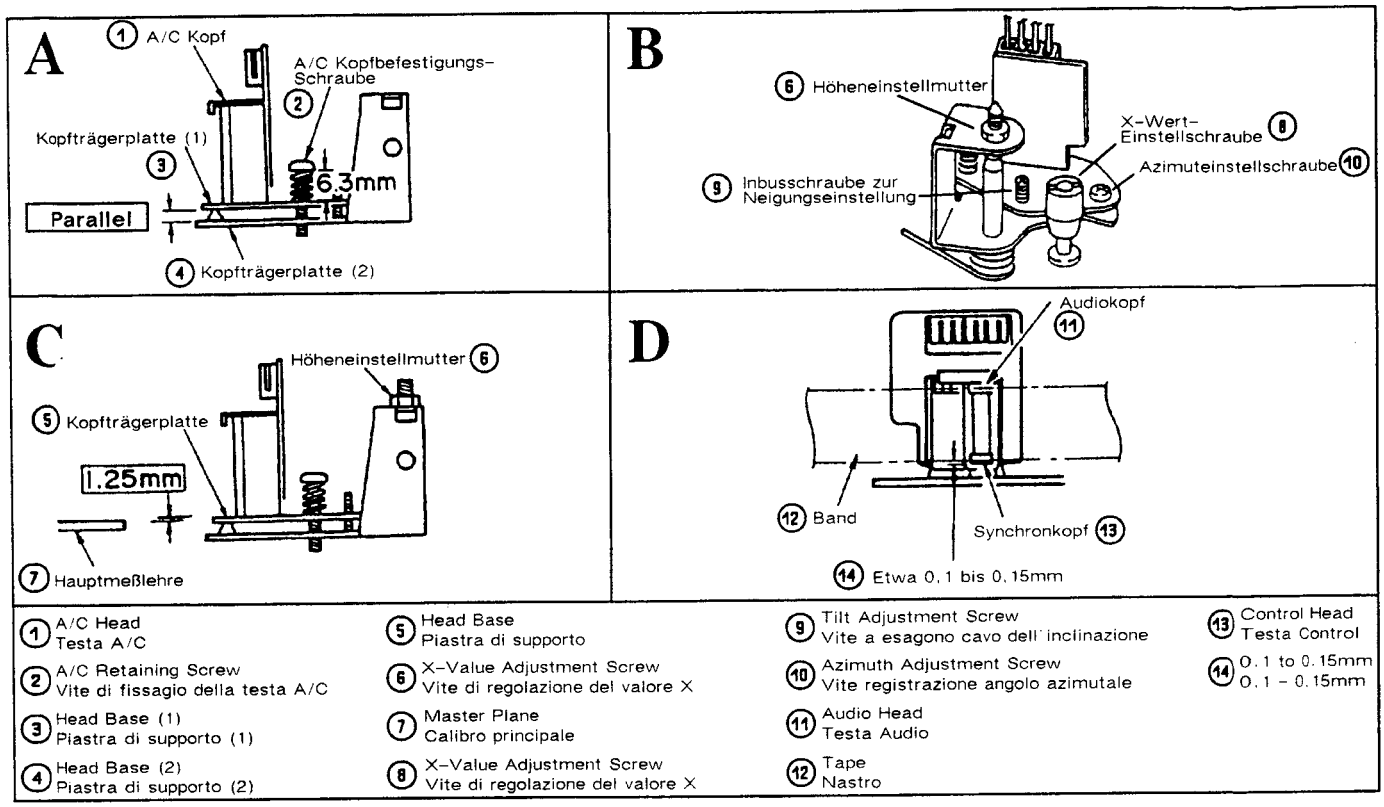
1) A/C-Kopfbefestigungsschraube: Kontrollieren. ob der mit einer Feder versehene Teil der A/C-Kopfbefestigungsschraube 6.3mm über die Oberkante der Kopfträgerplatte (1) hinausragt. (Siehe Bild 9A)
2) Inbusschraube zur Neigungseinstellung/Azimuteinstellschraube: Kopfträgerplatten (1) und (2) parallel ausrichten. (Siehe Bild 9B)
3) Höheneinstellmutter: Den Spalt zwischen Hauptmeßlehre und Kopfträgerplatte (1) auf ca. 1.25mm einstellen. (Siehe Bild 9C)
4) Die Einstell-Lehren entfernen. eine Leercassette laden und den VTR auf Wiedergabe stellen.
5) Das Band darf dabei keine Falten bilden oder über den A/C-Kopf gleiten. Tritt dies auf. müssen die Neigungseinstellschraube. die Azimuteinstellschraube und die Höheneinstellmutter neu justiert werden. Die ideale Bandhöhe ist erreicht. wenn die Bandunterkante 0.1 bis 0.15mm von der Unterkante des Control-Kopfkerns entfernt vorbeiläuft. (Siehe Bild 9D)
6) Fortsetzung mit dem Präzisionsabgleich.

Adjustment Procedure

1) A/C head retaining screw: Check that the spring section of the A/C head retaining screw protrudes 6.3mm over the top of head base (1). (See fig. A)
2) Tilt adjustment hexagonal screw/azimuth adjustment screw: Make head bases (1) and (2) parallel. (See fig. B)
3) Height adjustment nut: Set the clearance between the master plane and head base (1) to approx. 1.25mm. (See fig. C)
4) Remove the adjustment jigs. load a blank tape and set the VTR to the play mode.
5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over. readjust the tilt adjustment hexagonal screw. azimuth adjustment screw and height adjustment nut. When the bottom edge of tape is 0.1 to 0.15mm from the bottom edge of the control head's core. the height of A/C head is ideal. (See fig. D)
6) Perform the precise adjustment continuously.

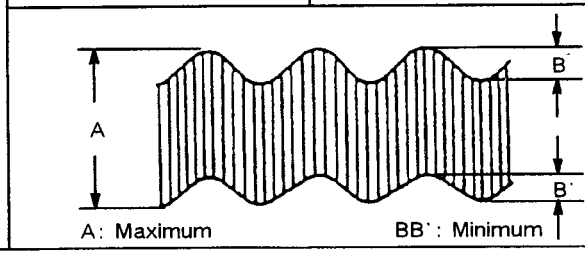
Procedura per la taratura

1) Vite di fissaggio della testa A/C: Verificare che la vite con l'attacco per la molla sporga di 6.3mm dall'angolo superiore della piastra di supporto (1) della testina. (Vedi fig. 9A)
2) Vite a esagono cavo dell'inclinazione. vite registrazione angolo azimutale: Orientare parallelamente le piastre di supporto (1) e (2) della testina. (Vedi fig. 9B)
3) Dado di registrazione in altezza: La distanza fra lo calibro principale e la piastra di supporto (1) della testina deve essere fissata su 1.25mm. (Vedi fig. 9C)
4) Eliminare calibro regolazione. Inserire una cassetta vuota e selezionare sull' apparecchi il modo operativo riproduzione.
5) In questo ciclo il nastro non deve produrre piegature o scivolare oltre la testina A/C. Se questo pero' e' il caso. bisogna allora nuovamente regolare la vite di aggiustamento inclinazione. la vite ad angolo azimutale e il dado di regolazione altezza. L'altezza ideale della testina A/C e' reggiunta. quando l'estremita' inferiore del nastro scorre di 0.1 fino a 0.15mm dalla parte inferiore oltre al nucleo della testina CONTROL. (Vedi fig. 9D)
6) Continuazione con l'allineamento di precisione.



① A/C Head Testa A/C	⑤ Head Base Piastra di supporto	⑨ Tilt Adjustment Screw Vite a esagono cavo dell'inclinazione	⑬ Control Head Testa Control
② A/C Retaining Screw Vite di fissagio della testa A/C	⑥ X-Value Adjustment Screw Vite di regolazione del valore X	⑩ Azimuth Adjustment Screw Vite registrazione angolo azimutale	⑭ 0.1 to 0.15mm 0.1 - 0.15mm
③ Head Base (1) Piastra di supporto (1)	⑦ Master Plane Calibro principale	⑪ Audio Head Testa Audio	
④ Head Base (2) Piastra di supporto (2)	⑧ X-Value Adjustment Screw Vite di regolazione del valore X	⑫ Tape Nastro	

Präzisionsabgleich — **Precise Adjustment** — **Regolazione fine**

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	AUDIO OUT	Abgleichband wiedergeben (Graustufen) Play alignment tape (stairsteps) Riprodurre nastro di allineamento (Segnale grigio a gradini)	Azimut-Einstellschraube Höheneinstellmutter Neigungseinstellschraube Azimuth adjustment nut Height adjustment nut Tilt adjustment screw
Abgleichband MH-2 Alignment tape MH-2 Nastro di taratura MH-2 Inbusschlüssel 1.5mm 1.5mm hexagonal wrench Chiave 1.5mm per esagoni cavi			Vite registrazione angolo azimutale Dado di registrazione in altezza Vite a esagono cavo dell'inclinazione

Abgleichprozedur

1) Jeweils geringfügig die Azimut-Einstellschraube, die Höheneinstellmutter und die Neigungsinbusschraube drehen, damit maximaler und gleich- mäßiger Audiosignalpegel erreicht wird (Schwankungen vermindern).

Adjustment Procedure

1) Adjust the azimuth adjustment screw, height adjustment nut and tilt adjustment hexagonal screw slightly, alternately: Make the audio output maximum and flat (minimum fluctuations).

Procedura per la taratura

1) Girare con una piccola vite rispettivamente la vite di regolazione ad angolo azimutale, il dado di regolazione altezza e la vite inbus di inclinazione, in modo che venga raggiunto il massimo e il piu' uniforme livello di segnale audio (evitare oscillazioni).

6. X-Wert

Zweck: Kompatibilität mit anderen Videorecordern sicherstellen.

6. X-Value

Purpose: To obtain compatibility with other VTRs.

6. Valore X

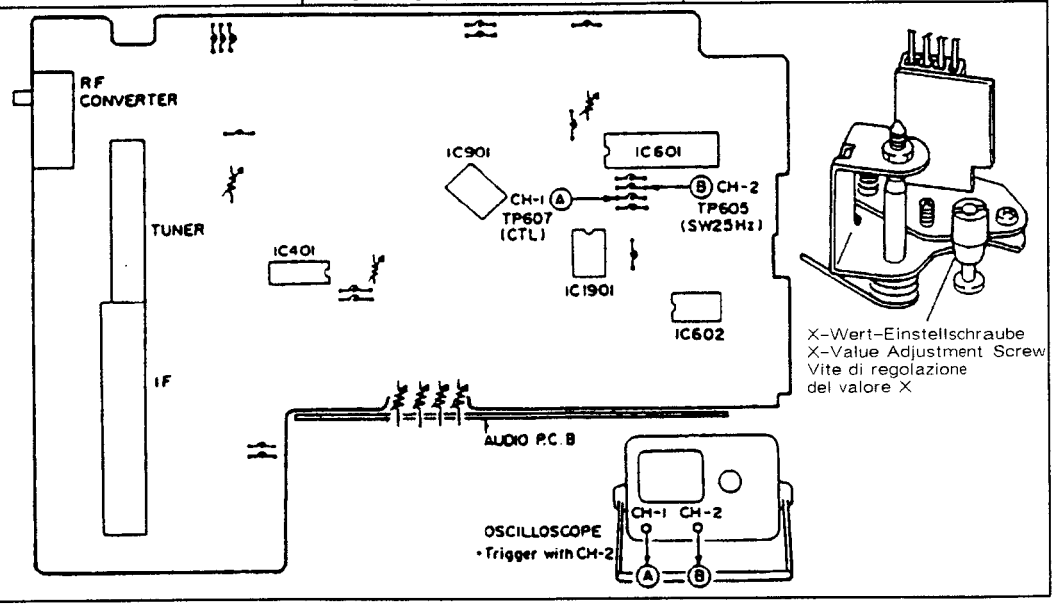
Scopo: Assicurare la compatibilita' con altri videoregistratori.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarli	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	CH-1: TP607 (CTL) CH-2: TP605 (SW25Hz)	Abgleichband wiedergeben (Graustufen) Play alignment tape (stairsteps) Riprodurre nastro di allineamento (segnale grigio a gradini)	X-Wert-Einstellschraube X value adjustment screw Vite di regolazione del valore X
Abgleichband MH-2 Alignment tape MH-2 Nastro di taratura MH-2 Inbusschlüssel 1.5 mm 1.5mm hexagonal wrench Chiave 1.5mm per esagoni cavi			

Einstellung des Oszilloskops:
Mit CH-2 triggern

Setting:
Trigger with CH-2

Regolazione dell'oscilloscopio:
Eccitare con CH-2



Abgleichprozedur

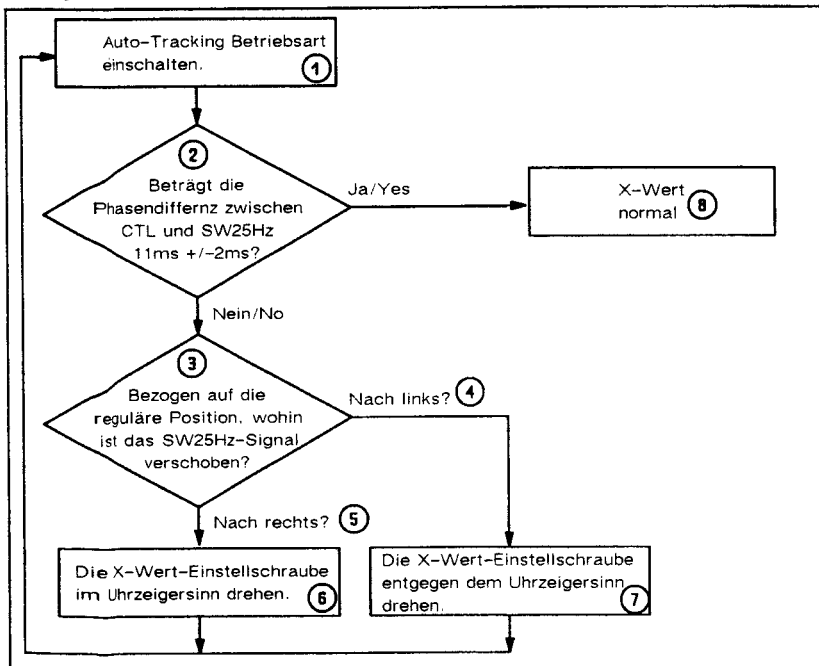
Einstellung so vornehmen, daß die Phasendifferenz zwischen positivem CTL-Puls und dem SW25Hz-Signal bei eingeschalteter Auto-Tracking-Funktion 11ms +/-2ms beträgt.

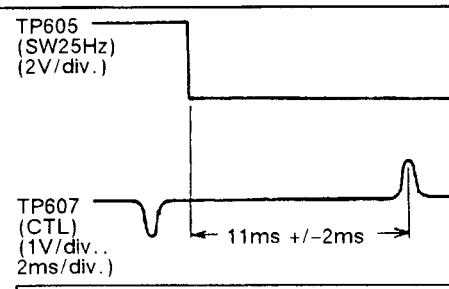
Adjustment Procedure

Adjust so that the phase difference between the CTL pulse (positive pulse) and the SW25Hz signal is 11ms +/-2ms when the autotracking function operates.

Procedura per la taratura

Effettuare la regolazione in modo che la differenza di fase fra impulso CTL positivo e segnale SW25Hz a funzionamento tracking automatico inserito sia di 11ms +/-2ms.





1. Set to the auto-tracking mode.
   Inserire il tipo di funzionamento tracking automatico.
2. Is the phase difference between CTL and SW25Hz 11ms +/-2ms?
   La differenza di fase fra CTL e SW25Hz e' e' di 11ms +/-2ms?
3. To which SW25Hz is drifted from the regular position?
   Riferito alla posizione regolare, dove si e' spostato il segnale SW25Hz?
4. To the left?
   A sinistra?
5. To the right?
   A destra?
6. Turn the X-value adjustment screw clockwise.
   Ruotare in senso orario la vite di regolazione del valore X.
7. Turn the X-value adjustment screw counter-clockwise.
   Ruotare in senso antiorario la vite di regolazione del valore X.
8. X-value is normal.
   Volore X normale.

7. Einstellungen nach dem Austausch der Videokopftrommel

Zweck: Unterdrückung von Abweichungen in der Höhe relativ zu den Bandführungsrollen und Minimierung des X-Wertes nach einem Kopftrommelaustausch.

7. Adjustments After Replacing Cylinder (Video Heads)

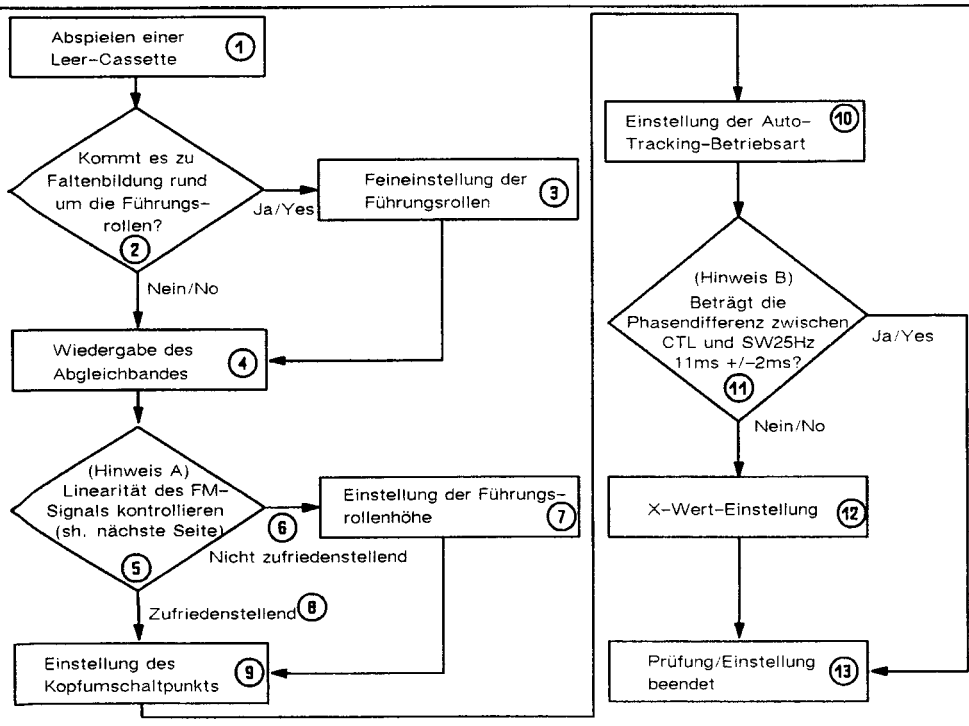
Purpose: To suppress drift in the height relative to the guide roller and to minimize the X-value after replacing the cylinder.

7. Regolazione dopo lo scambio del tamburo della testina video

Scopo: Soppressione del movimento in altezza rispetto ai rulli guida e minimazione del valore X dopo la sostituzione della testina video.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjustment Operazioni preliminari	Betriebszustand des Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	Signalgleichmäßigkeit kontrollieren Checking the flatness Controllare la regolarita' del segnale CH-1: TP2552 (PB FM) CH-2: TP605 (SW25Hz)	Leercassette abspielen Run the blank tape Riprodurre nastro vuoto	Bandführungsrollen (S. 1-52) Kopfumschaltpunkt (S. 1-34) X-Wert (S. 1-56) Guide rollers (p. 1-52) Switching point (p. 1-34) X-value (p. 1-56) Rullo guida-nastro (p. 1-52) Punto di commutazione della testa (p. 1-34) Regolazione del valore X (p. 1-56)
Abgleichband MH-2 Alignment tape MH-2 Nastro di taratura MH-2 Leercassette Blank tape Nastro vuoto Inbusschlüssel 0.9/1.5 mm 0.9/1.5 hexagonal wrench Chiave 0.9/1.5mm per esagoni cavi X-Wert-Schraubenzieher X-value adjustment screwdriver Cacciavite per valore X		Abgleichband wiedergeben (Graustufensignal) Play alignment tape (Stairsteps) Riprodurre nastro di allineamento (Segnale a gradini grigi)	

Kontroll- und Einstellprozeduren **Check and Adjustment Procedures** **Procedure di controllo e regolazione**



Hinweis A:
Anschluß der Meßgeräte siehe Seite 1-53

Note A:
See page 1-53 for the connection of the test equipment.

Nota A:
Allacciamento degli apparecchi di prova vedi pag. 1-53.

Hinweis B:
Anschluß der Meßgeräte siehe Seite 1-56.

Note B:
See page 1-56 for the connection of the test equipment.

Nota B:
Allacciamento degli apparecchi di prova vedi pag. 1-56.

① Run blank tape.
Riproduzione con cassetta vuota.

② Is there curling or creasing around the guide rollers?
Si formano pieghe intorno ai rulli di guida?

③ Precise adjust the guide rollers.
Regolazione fine dei rulli di guida.

④ Play alignment tape.
Riproduzione del nastro di equilibratura.

⑤ Check flatness of FM output (see next side). (Note A)
Controllo della linearita' del segnale MF (ved. segunte pag.) (Nota A)

⑥ Not satisfactory.
Non soddisfacente.

⑦ Adjust the guide roller height.
Regolazione altezza rulli di guida.

⑧ Satisfactory.
Soddisfacente.

⑨ Head Switching point adjustment.
Regolazione del punto di commutazione testina.

⑩ Set to the auto-tracking mode.
Regolazione del tipo di funzionamento tracking automatico.

⑪ Is the phase difference between CTL pulse and SW25Hz 11 +/-2ms? (Note B)
La differenza di fase fra CTL e SW25Hz e' di 11ms +/-2 ms? (Nota B)

⑫ X value adjusment.
Regolazione valore X.

⑬ Checking/adjustment completed.
Controllo/regolazione terminati.

Prüfvorgang bezüglich der Linearität und der Schwankungen des FM-Signals

1) Auf Auto-Tracking-Betrieb stellen um das FM-Signal auf Maximum zu bringen. (Siehe Bild A)
2) Durch Feinabgleich des Eingangsreglers am Oszilloskop die Anzeige des FM-Pegels auf 4 Skalenteile einstellen (=100%). (Siehe Bild B)
3) Tracking-Tasten drücken um die maximale FM-Amplitude auf 3 Skalenteile zu reduzieren.
4) Darauf achten, daß die minimalste Amplitude 2 oder mehr Skalenteile betragen muß. (Siehe Bild C)
5) Kontrollieren, ob die Differenz der Pegelschwankungen zwischen Minimum und Maximum kleiner als 13% ist.

Checking procedure of flatness and fluctuations of FM output and waveform diagrams

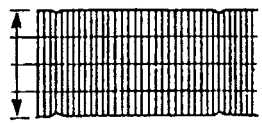
1) Set to the auto-tracking mode to maximize the FM output. (See fig. A)
2) Fine tune the voltage level range of the oscilloscope to set the FM output to 4 graduations. (See fig. B)
3) Press the tracking control buttons to set the maximum amplitude of the FM output to 3 graduations.
4) Check that the minimum amplitude is more than 2 graduations. (See fig. C)
5) Check that the level fluctuations between the maximum and minimum amplitudes are less than 13%.

Controllo della linearita' e delle oscillazioni del segnale MF

1) Effettuare la regolazione su funzionamento tracking automatico per portare al massimo il segnale MF. (Vedi fig. A)
2) Regolare con allineamento particolareggiato del regolatore di entrata dell' oscilloscopio il display del livello MF su quattro parti di scala (=100%). (Vedi fig. B)
3) Usare i pulsante di tracking e portare al 3 parti di scala il segnale MF.
4) Assicurarsi che l'ampiezza minima al momento corrisponda a 2 o a piu' parti della scala. (Vedi fig. C)
5) Assicurarsi che la differenza delle oszillazioni di livello tra minimo e massimo sia minore del 13%.

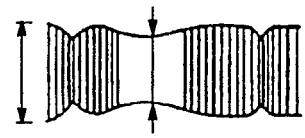
A

B



4 Skalenteile
4 Graduations
4 Parti di scala

C



3 Skalenteile
3 Graduations
3 Parti di scala

2 Skalenteile
2 Graduations
2 Parti di scala

8. Drehmoment-/ Bandzugkontrolle

Zweck: Die Kontrolle des Bandzugs, des Drehmoments und der Kompressionskraft am Aufwickelteller ist notwendig, um gleichmäßigen Bandlauf und zufriedenstellende Leistung des Videorecorders zu erzielen. Diese Kontrollen bei ungleichmäßigem Bandlauf oder falscher Bandgeschwindigkeit durchführen.

8. Tension/Torque checks

Purpose: It is necessary to check the tension, torque and compression force at the tape take-up section and moving section to make the tape running smooth and satisfy the basic performance of the VTR. Check these if the tape running is not smooth or the tape speed is abnormal.

8. Controllo della coppia e tiraggio nastro

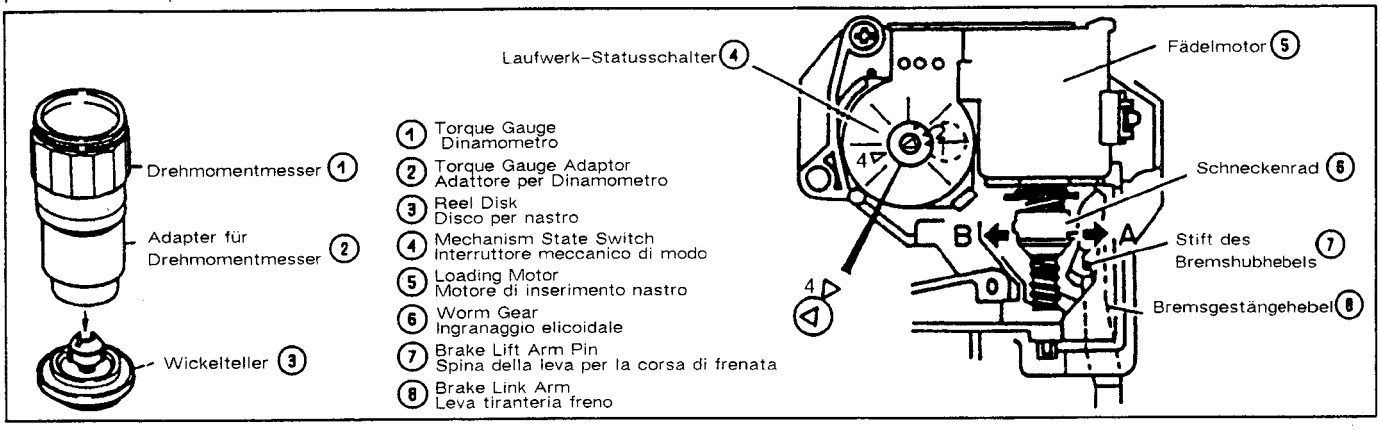
Scopo: Controllo del tiraggio nastro, della coppia e della compressione sul piatto di avvolgimento, necessario per una prestazione soddisfacente del videoregistratore. I controlli si effettuano in caso di scorrimento irregolare o velocita' errata del nastro.

Meßgeräte/Hilfsmittel Test equipment/jigs Apparecchi di misurazione/mezzi ausiliarii		Betriebszustand des VTR State of VTR Impostazioni sul videoregistratore	
Drehmomentmesser / Adapter für Drehmomentmesser Torque gauge / Torque gauge adaptor Dinamometro / Adattore per dinamometro		Den VTR ohne geladene Cassette betreiben (siehe 9.) Operate VTR without inserting a cassette (see 9.) Il metodo per spostare il VR senza cassetta inserita nello stato di caricamento (vedi 9.)	
Bezeichnung Item Denominazione	Betriebsart des VTR VTR Operation mode Impostazione sul VTR	Meßwickelteller Measurement reel Disco per nastro misurato	Meßwerte Measurement values Valore rilevato
Hauptbremsmoment Main brake torque Freno principale	Stopp: (Hinweis) Stop: (Note) Stop: (Nota)	Vorrats-/Aufwickelteller Supply and take-up reels Disco di svolgimento e avvolgimento	60 - 180 g.cm
Ausfädeldrehmoment Slack removal torque Coppia sfilamento	Ausfädeln Unloading Sfilamento	Vorratsteller Supply reel Disco di svolgimento	120 - 250 g.cm
Schnellvorlaufdrehmoment Fast forward torque Coppia avanzamento rapido	Schnellvorlauf Fast forward Avanzamento rapido	Aufwickelteller Take-up reel Disco di avvolgimento	400 gcm oder mehr 400 gcm or more 400 gcm o piu'
Rücklaufdrehmoment Rewind torque Coppia ritorno	Rücklauf Rewind Ritorno	Vorratsteller Supply reel Disco di svolgimento	400 gcm oder mehr 400 gcm or more 400 gcm o piu'
Aufwickeldrehmoment Take-up torque Coppia avvolgimento	Wiedergabe Play Riproduzione	Aufwickelteller Take-up reel Disco di avvolgimento	75 - 130 g.cm
Zugspannung Back tension torque Forza di trazione in riavvolgimento	Schnellvorlauf Fast forward Avanzamento rapido	Vorratsteller Supply reel Disco di svolgimento	3 - 13 g.cm
	Rücklauf Rewind Ritorno	Aufwickelteller Take-up reel Disco di avvolgimento	
	Super-Rücklauf Super rewind Riavvolgimento super	Aufwickelteller Take-up reel Disco di avvolgimento	8 - 18 g.cm
	Rückwärts-Wiedergabe Reverse play Riproduzione a marcia indietro	Aufwickelteller Take-up reel Disco di avvolgimento	30 - 60 g.cm
	Rückwärts-Zeitlupe Reverse slow Rallentatore a marcia indietro	Aufwickelteller Take-up reel Disco di avvolgimento	60 - 120 g.cm
Zeitlupen-Drehmoment Slow torque Coppia rallentatore	Zeitlupe Slow Rallentatore	Aufwickelteller Take-up reel Disco di avvolgimento	40 - 90 g.cm
Rückwärtswiedergabe-Drehmoment Reverse play torque Coppia riproduzione a marcia indietro	Rückwärtswiedergabe Reverse play Riproduzione a marcia indietro	Vorratsteller Supply reel Disco di svolgimento	140 - 190 g.cm

Prüfmethode
Die Werte sind gemessen worden unter Verwendung eines Drehmomentmessers mit daran befestigtem Drehmomentadapter. **Hinweis:** In der Betriebsart STOP die Schnecke in Pfeilrichtung (A) drehen und den Zeiger auf dem Mechanischen Zustandsschalter dabei auf Ziffer "4" verschieben. damit die Hauptbremse auf den Vorratsteller einwirkt. Dann die Schnecke in Pfeilrichtung (B) drehen.damit der Bremsgestän- gehebel vom Stift des Bremshubhebels freigegeben wird.(Das Wickeltellerantriebszwischenrad auf Mittelposition stellen.)

Checking method
The values are measured using a torque gauge and torque gauge adapter with the torque gauge fixed.
Note: Turn the worm gear in the direction of arrow (A) in the stop mode and shift the pointer on the mechanism state switch to "4" so as to apply the main brake to the supply reel disk. Then turn the worm gear in the direction of arrow (B) so that brake link arm is released from the brake lift arm pin. (Set the reel drive idler to the centre position.)

Metodo di controllo
I valori sono stati misurati impiegando un misuratore di coppia con adattore di coppia. che va fissato sul misuratore di coppia
Nota: Girare la chiocciola in direzione della freccia (A) e spostare sulla cifra "4" l'indicatore sull'interruttore meccanico di stato in modo che il freno principale agisca sul piatto con la riserva di nastro. Girare poi la chiocciola in direzione della freccia (B) per liberare la leva tiranteria freno dal perno della leva di corsa di frenata (posizionare al centro la ruota intermedia di trasmissione del piatto di avvolgimento).



9. Ladezustand ohne Cassette

1) Gehäuseoberteil und Frontblende abnehmen.
2) Die Cassettenlademechanik entfernen.
3) Netzstecker abstecken.
4) Den Vorratstellerendsensor und den Aufwickeltellerendsensor mit schwarzem Klebeband o.ä. abdecken. um das Licht abzuhalten (siehe Sektion A der nachfolgenden Zeichnung).
5) Netzstecker am Netz anstecken.
6) VCR-Netzschalter einschalten. In diesem Zustand akzeptiert der VCR alle Betriebsarten. Rücklauf kann jedoch nur für wenige Sekunden durchgeführt werden. da sich der Aufwickelteller im STOP-Zustand befindet und somit keine Wickeltellerimpulse erkannt werden können.

Achtung! Nach den oben durchgeführten Operationen müssen immer die folgenden Schritte befolgt werden. damit ein originaler Betrieb möglich wird:
1) Das Klebeband von den Wickeltellerendsensoren entfernen.
2) Netzstecker nochmal vom Netz trennen. um ein System-Reset des Steuermikroprozessors durchzuführen.

9. Loading State without Cassette

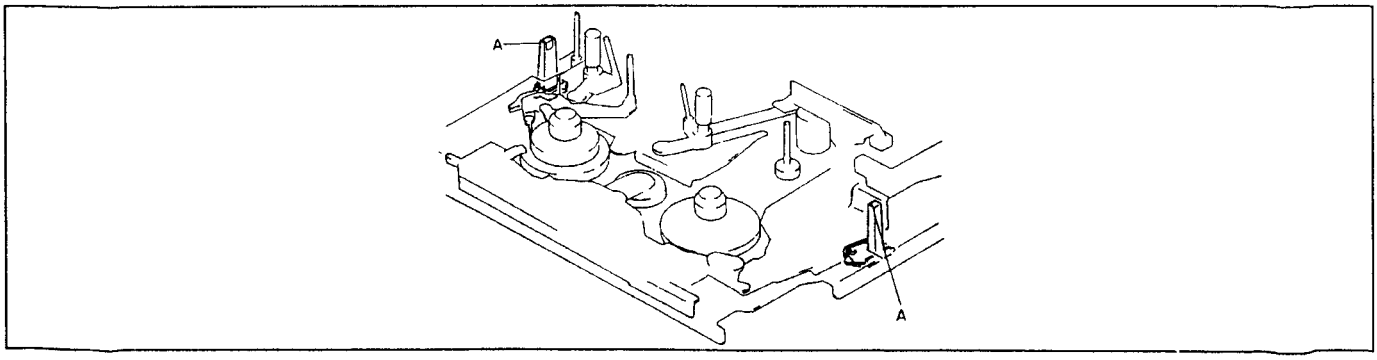
1) Remove top cover and front panel.
2) Remove the cassette loading mechanism.
3) Unplug the mains lead from the AC outlet.
4) Cover the supply and take-up end sensors (sections A in the figure below) with black masking tape. etc. to shut off the light.
5) Plug the mains lead into the AC outlet.
6) Turn the VTR on. In this state. the VTR will accept all modes. However. rewind can be performed for only a few seconds because the take-up disk is in stop state and reel pulses cannot be detected.

Cautions! After the above operations. always use the following steps to return to the original modes.
1) Remove the masking tape. etc. from the supply/take-up reel end sensors.
2) Unplug the mains lead from the AC outlet to reset the system control microprocessor.

9. Stato di caricamento senza cassetta

1) Togliere il pannello superiore della custodia e il pannello frontale.
2) Smontare il meccanismo per il caricamento della cassetta.
3) Estrarre la spina.
4) Coprire i sensori lato svolgimento e avvolgimento con nastro adesivo nero (vedere anche parte dello schema che segue).
5) Riallacciare alla rete il VTR.
6) Accendere l'interruttore principale del VTR a cassette.In questo stato. il VTR accetta tutti i modi operativi. Tuttavia il riavvolgimento puo' avvenire per solo pochi secondi. dato che il disco di avvolgimento si trova nello stato di stop e quindi non puo' venire riconosciuto alcun impulso del disco per nastro.

Attenzione! Dopo avere svolto le operazioni nominate sopra bisogna eseguire sempre i seguenti passi per rendere possibile un funzionamento originale:
1) Togliere il nastro adesivo dai sensori di fine nastro del disco di avvolgimento.
2) Separare ancora una volta la spina dalla rete di corrente per potere eseguire un sistema-reset del microprocessore.



Wartungsabläufe

1. Reinigung

1) Reinigen der Videoköpfe

Zuerst ein Reinigungsband verwenden. Bei hartnäckig anhaftendem Schmutz, der mit dem Reinigungsband nicht entfernt werden kann, das Kopfreiniger-Set verwenden. Das Reinigungsstäbchen bis zu der angegebenen Stelle mit Reinigungsflüssigkeit benetzen; das Reinigungsstäbchen leicht an den Videokopf andrücken und die Kopftrommel nach links und rechts drehen.

Das Reinigungsstäbchen nicht vertikal bewegen! Darauf achten, daß nur das Wildleder des Reinigungsstäbchens den Videokopf berührt. Andernfalls könnte der Videokopf beschädigt werden.

Den Videokopf anschließend gründlich trocknen und einen Probelauf mit einem Magnetband ausführen. Falls Reinigungsflüssigkeit auf dem Videokopf verbleibt, könnte das Magnetband beschädigt werden, wenn es mit dem Videokopf in Berührung kommt.

Maintenance Procedures

1. Cleaning

1) Cleaning video head

First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the cleaning kit.

Moisten the cleaning stick with cleanig fluid at the point indicated. Touch the stick to the head tip and gently turn the head (rotating cylinder) to the right and left.

Do not move the stick vertically and make sure that only the chamois leather on the stick comes into contact with the head. Otherwise, the head maybe damaged.

Thoroughly dry the head. Then test run a tape. If cleaning fluid remains on the video head, the tape may be damaged when it comes into contact with the head surface.

Sequenza di manutenzione

1. Pulizia

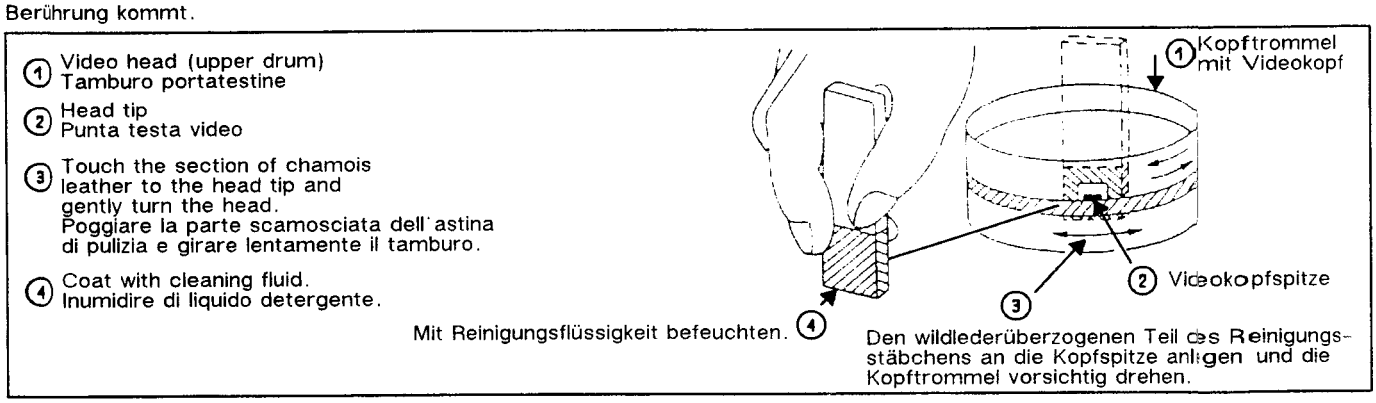
1) Pulizia delle teste video

Usare anzitutto un nastro di pulizia. In caso di impurita' non eliminabili con il nastro, usare il set di pulizia delle teste.

Inumidire di detersivo la stanghetta di pulizia fino al punto indicato. Poi premere leggermente la stanghetta sulla testa video e girare il tamburo verso destra e sinistra.

Non muovere la stanghetta in senso verticale e fare attenzione che la testa video sia toccata solo dalla parte scamosciata della stanghetta, per evitare di danneggiarla.

Asciugare perfettamente la testa video. Poi eseguire una prova con nastro magnetico. Se sulla testa resta detersivo residuo, il nastro magnetico potrebbe essere danneggiato quando tocca la testa video.



2) Reinigen des Laufwerks, Antriebssystems usw.

Mit einem in Reinalkohol oder Freon angefeuchteten Wattebausch abwischen.

Hinweise:

1. Das Laufwerk enthält alle Teile, die mit dem Magnetband in Berührung kommen. Das Antriebssystem umfaßt dagegen alle Teile, die für den Antrieb des Magnetbandes dienen.
2. Bei der Reinigung darauf achten, daß die Teile des Laufwerks nicht mit metallischen Gegenständen (Schraubendreher usw.) berührt werden; weiter dürfen keine übermäßigen Kräfte auf das Laufwerk ausgeübt werden, da es sonst zu Verformungen kommen kann.

2) Cleaning the tape transport system and drive system, etc.

Wipe with gauze moistened with alcohol or freon.

Notes:

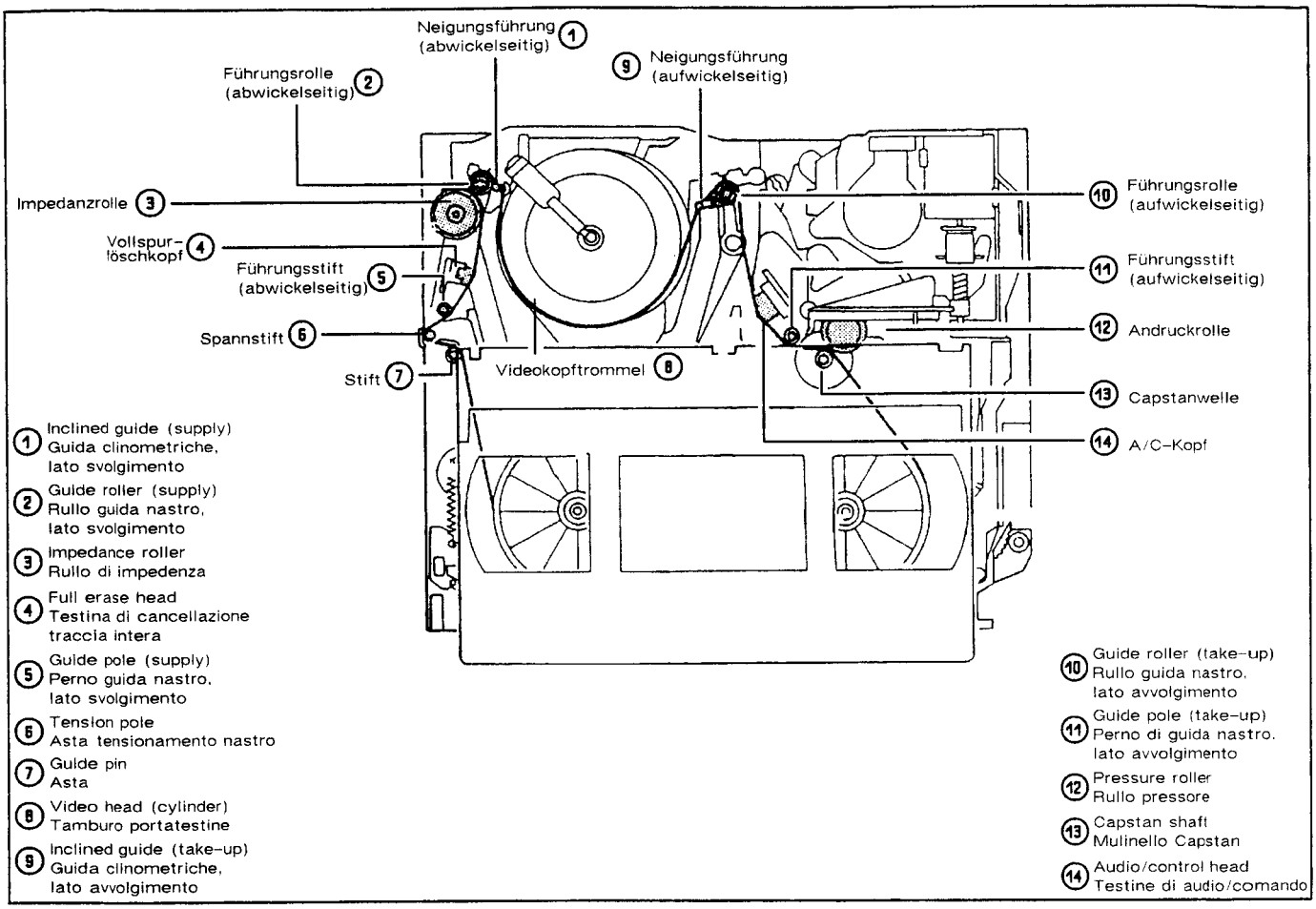
1. The tape transport system is the system which comes into contact with the running tape. The drive system consists of those parts which run the tape.
2. Make sure that during cleaning you do not touch the tape transport system with the tip of a screwdriver and that no force is applied to the system that could deform it.

2) Pulizia del motore, della trasmissione, ecc.

Pulire con un batuffolo di ovatta intriso di alcool puro o freone.

Note:

1. La trasmissione contiene tutte le parti a contatto con il nastro magnetico. Il sistema motore contiene invece tutte le parti necessarie per il movimento del nastro magnetico
2. Per la pulizia si deve fare attenzione che le parti della trasmissione non vengano a contatto con parti metalliche (cacciavite, ecc.). Non si deve forzare il sistema di trasmissione che puo' essere deformato.



2. Ölschmierung

1) Richtlinien für die Ölschmierung
Einen Präzisions-Öler verwenden, um ein oder zwei Tropfen Schmieröl ("Pan Motor Oil" oder "Sonic Slidas Oil") aufzutragen. Niemals zuviel Öl auftragen, da dieses sonst auf andere drehende Teile gelangen und Schlupf verursachen kann. Falls zuviel Öl aufgetragen wurde, das überschüssige Öl mit Reinalkohol oder Freon abwischen.
2) Regelmäßige Ölschmierung
Öl alle 1000 Betriebsstunden auf den vorgeschriebenen Punkten auftragen.

2. Lubrication

1) Guidelines for lubrication with oil
Use the oiler to apply one or two drop of pan motor oil or Sonic Slidas oil. Make sure not to use too much oil because it may spill over or leak out coming into contact with rotating parts and causing slippage or other problems. If too much oil is applied, wipe clean with alcohol or freon.
2) Periodic oil lubrication
Oil specified locations every 1.000 hours.

2. Olio lubrificante

1) Direttive di lubrificazione
Usare un oliatore di precisione e immettere una o due gocce di olio ("Pan Motor Oil" o "Sonic Slidas Oil"). Non immettere mai troppo olio che puo' raggiungere altre parti rotanti e generare uno slittamento. Se e' stato immesso troppo olio, eliminarlo con alcool puro o freone.
2) Lubrificazione periodica con olio
Immettere olio sui punti previsti ogni 1000 ore di esercizio.

3. Fettschmierung

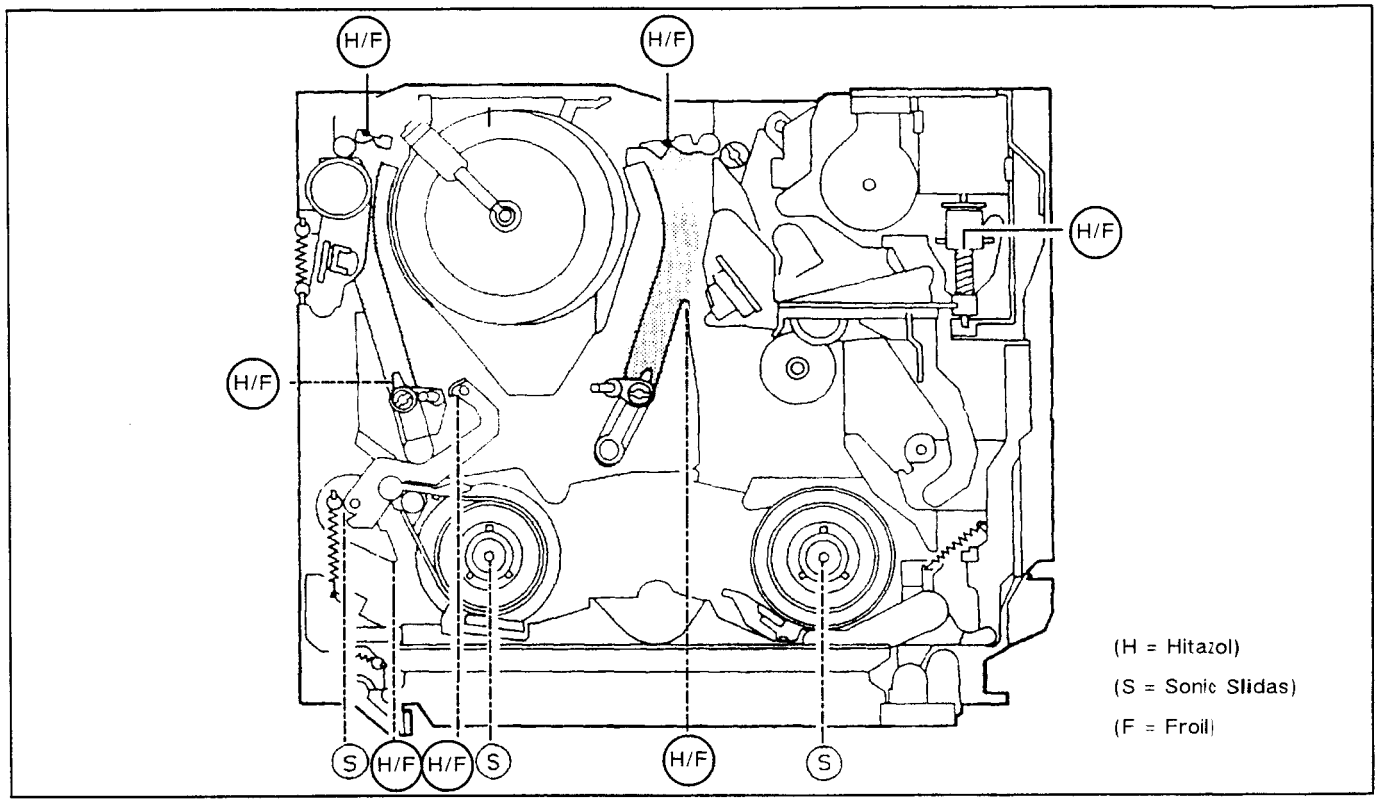
1) Richtlinien für die Fettschmierung
Schmierfett ("Hitazol" oder "Froil" mit einem Stäbchen oder Pinsel auftragen. Jedoch nicht zuviel Fett verwenden, da dieses sonst auf Teile des Bandlaufwerks oder Antriebssystems gelangen kann. Überschüssiges Fett mit einem in Reinalkohol oder Freon angefeuchteten Wattebausch abwischen.
2) Regelmäßige Fettschmierung
Fett alle 5000 Betriebsstunden auf den vorgeschriebenen Punkten auftragen.

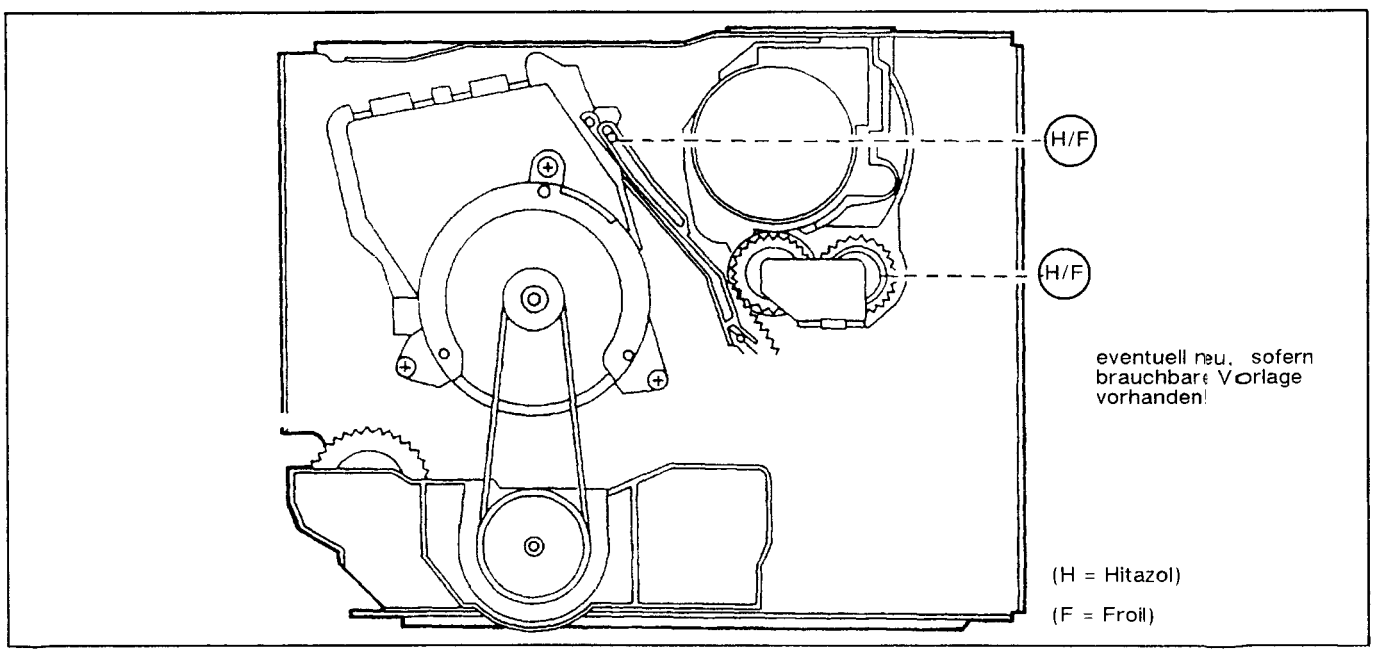
3. Greasing

1) Greasing guidelines
Apply grease, Hitazol or Froil, with a stick or brush. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with gauze moistened with alcohol or freon.
2) Periodic greasing
Grease specified locations every 5.000 hours.

3. Lubrificazione con grasso

1) Direttive di lubrificazione
Applicare il grasso lubrificante ("Hitazol" o "Froil") con una stanghetta o un pennello, ma senza esagerare perche' il grasso potrebbe penetrare nella trasmissione o nel sistema motore. Eliminare il grasso superflui con un batuffolo di ovatta intriso di alcool puro o freone.
2) Ingrassaggio periodico
Applicare il grasso sui punti previsti ogni 5000 ore di esercizio.

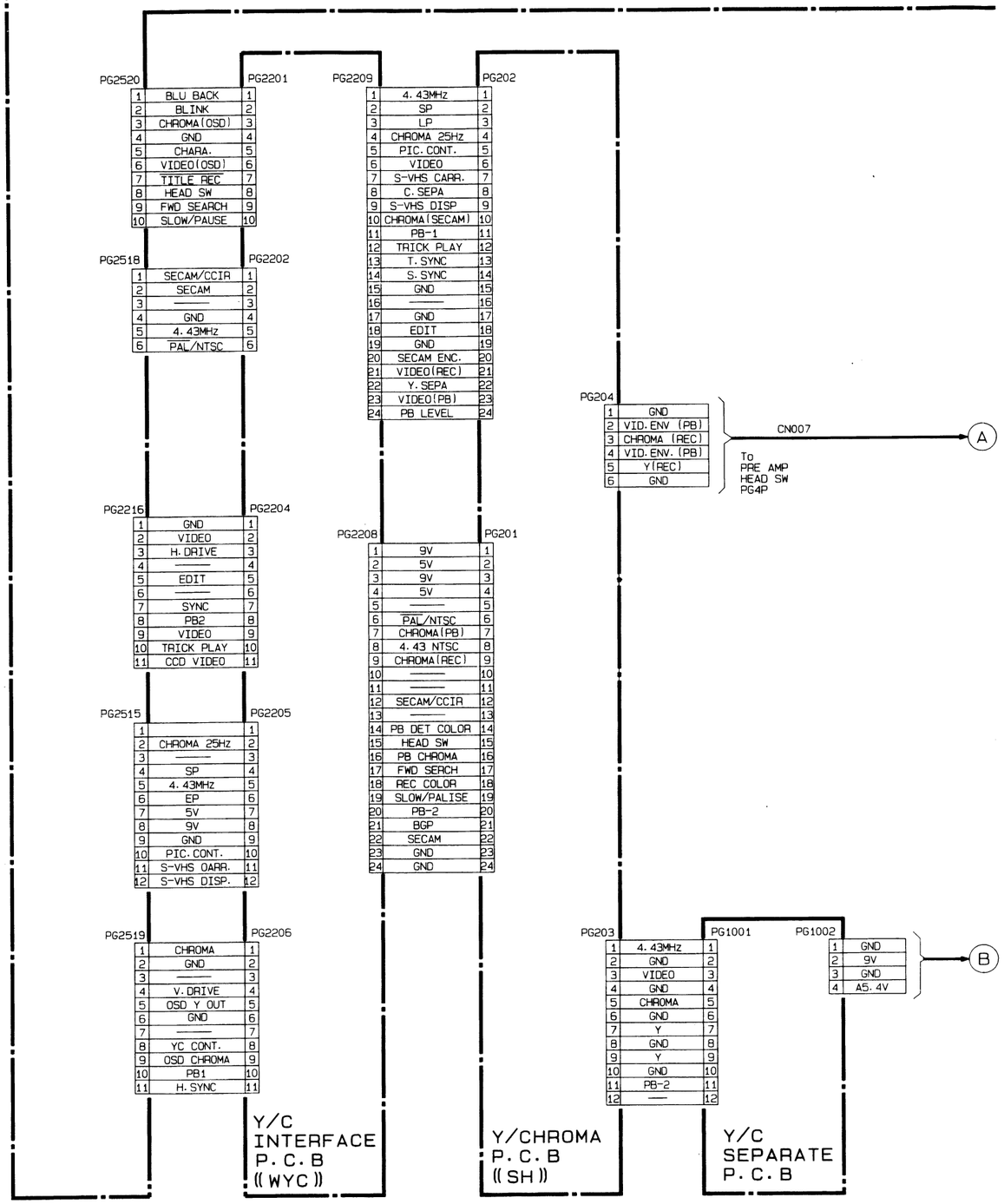




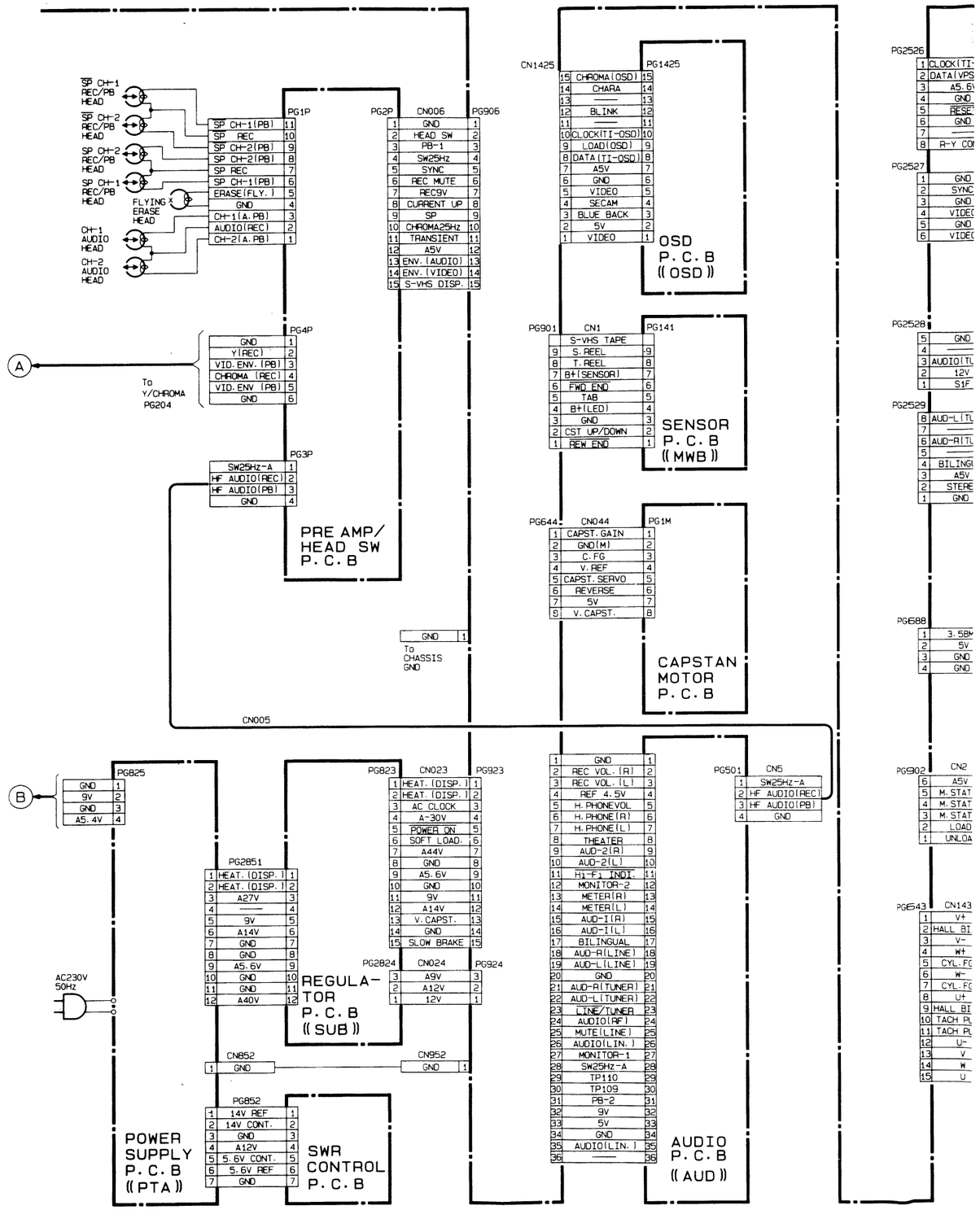
Bezeichnung Name Designazione	Öl- oder Schmierstelle Oil or Greasing Location Punto di lubrificazione o da oliare
Pan Motor Oil (X10W40)	Öl für Teile mit hoher Drehzahl Oil high-speed rotating sections Olio per componenti ad alto numero di giri
Sonic Slidas Oil (#1600)	Öl für Teile mit niedriger Drehzahl Oil low-speed rotating sections Olio per componenti a basso numero di giri
Froil (GB-TS-1)	Schmiermittel für leicht belastete Metall- und Plastikteile Lubricate metal or molded sections under light load Lubrificante per parti di metallo e plastica a basso carico
Hitazol (MO138)	Schmiermittel für stark belastete Metallteile Grease metal parts under heavy load Lubrificante per parti di metallo a forte carico

Notizen / Notes / Annotazioni:

MAIN P.C.B ((SSJ)) (1/2)

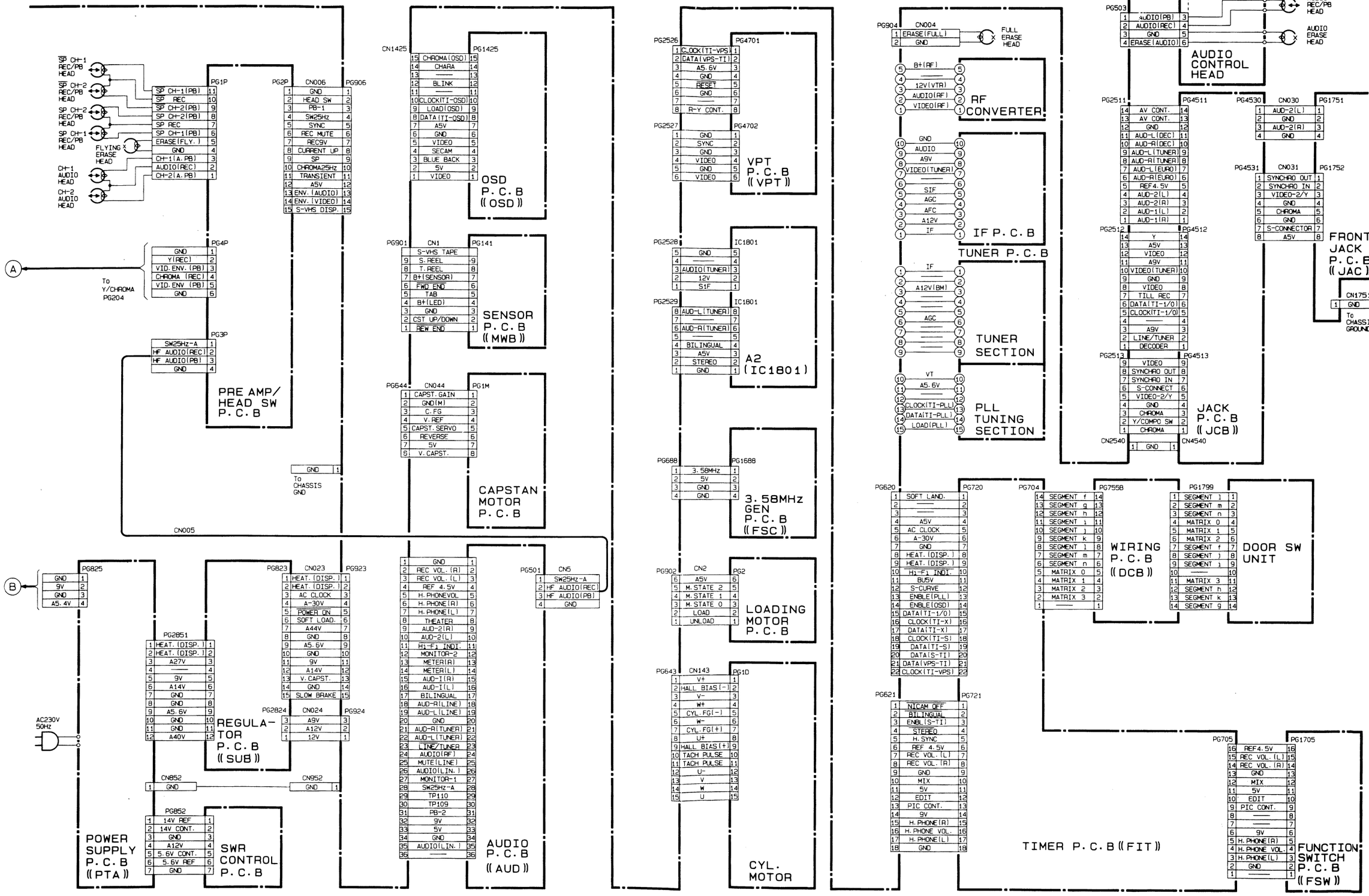


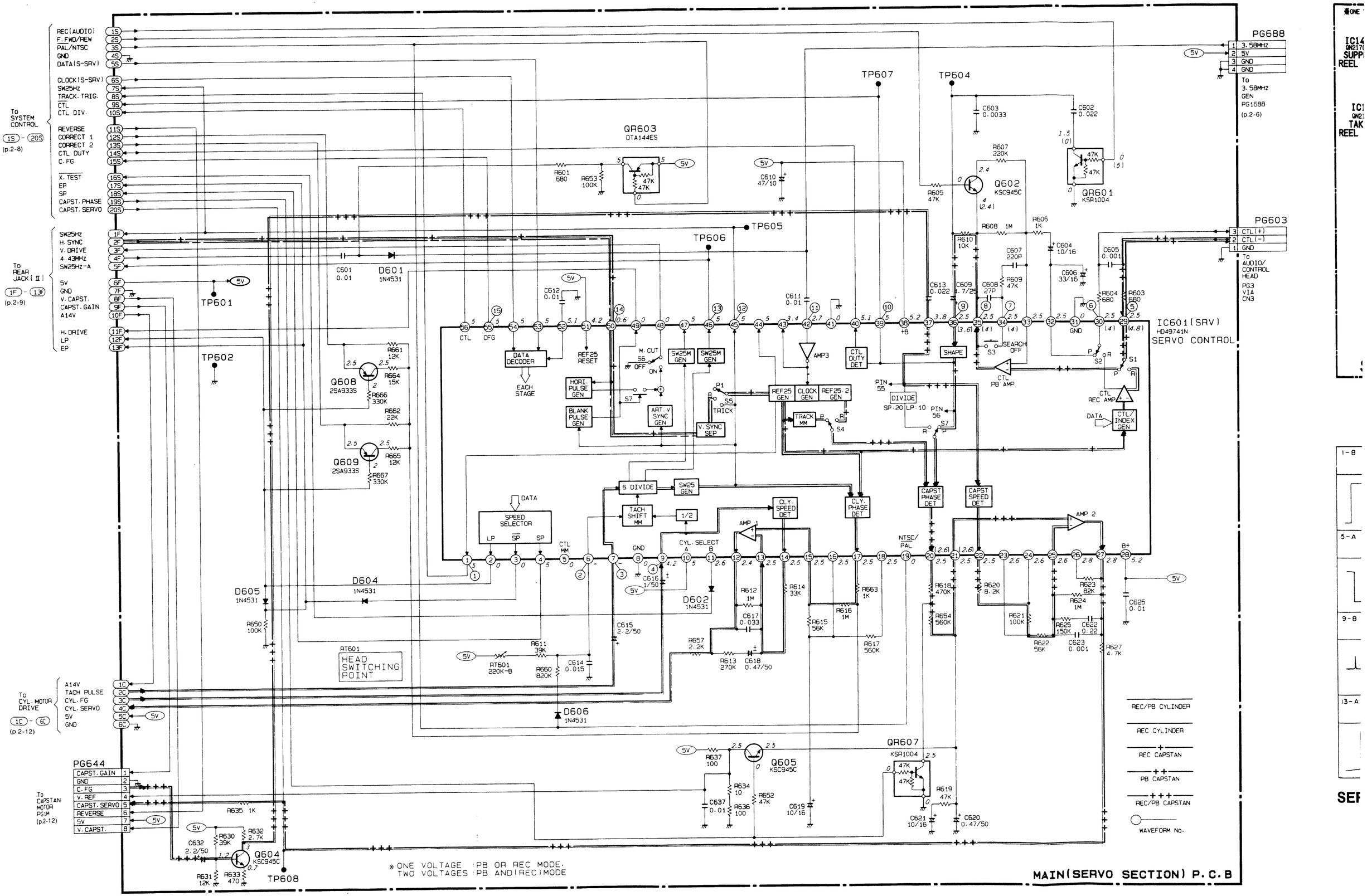
MAIN P.C.B ((SSJ)) (2/2)

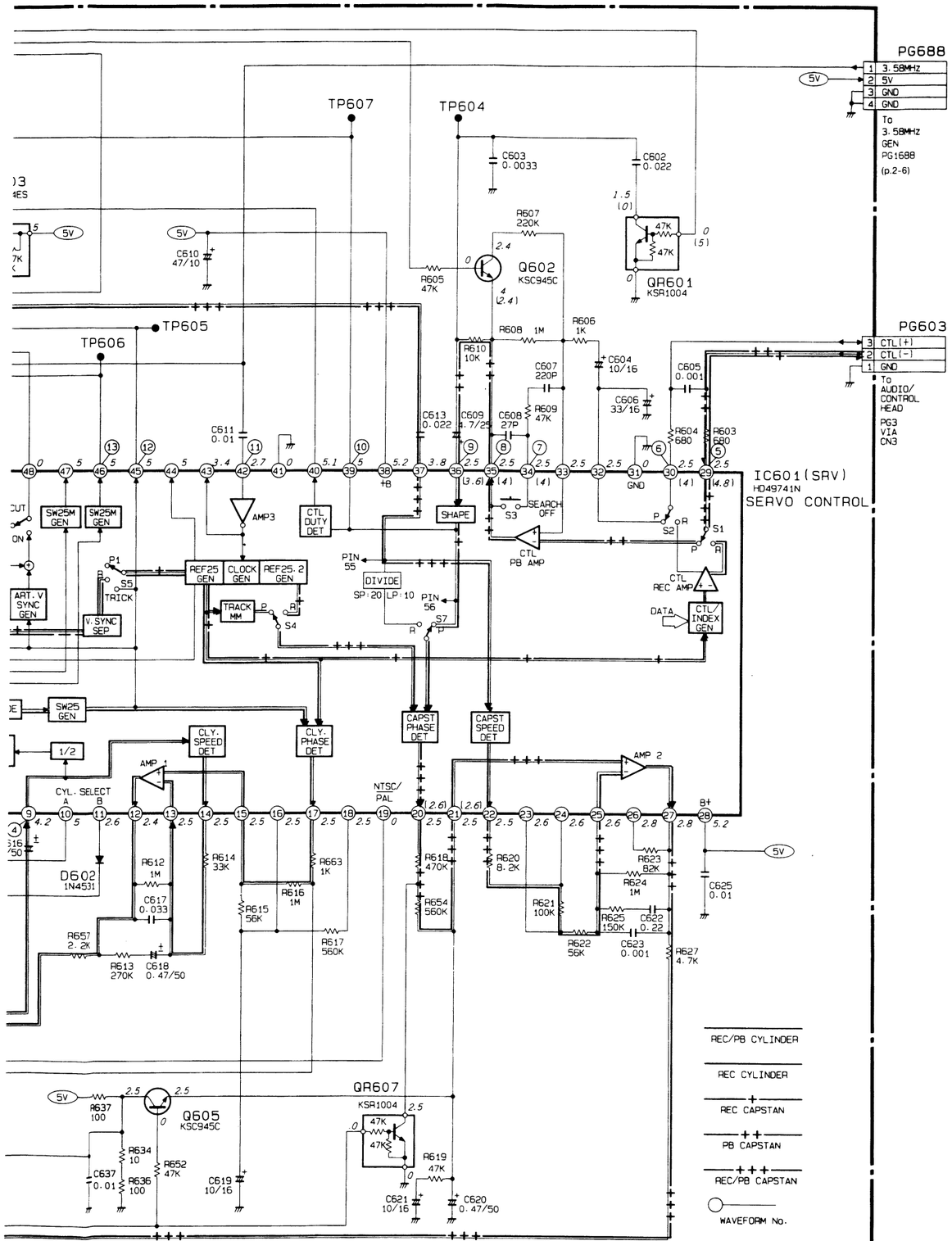


MAIN P.C.B ((SSJ)) (2/2)

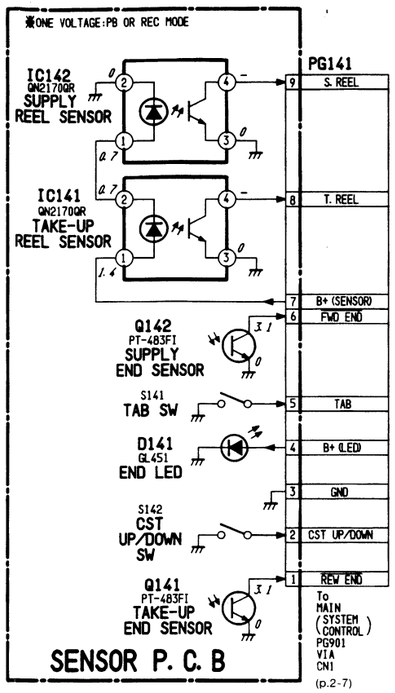
(SERVO, REAR JACK[I], REAR JACK[II]
SYSTEM CONTROL, AUDIO-LINEAR)



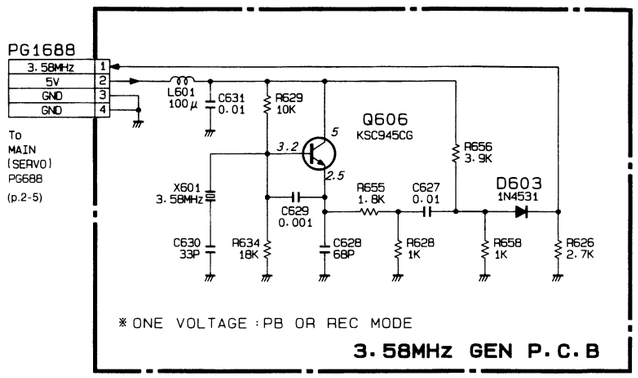

To SYSTEM CONTROL (1S) - (20S) (p.2-8)
REC(AUDIO) 1S
F.FWD/REW 2S
PAL/NTSC 3S
GND 4S
DATA(S-SRV) 5S
CLOCK(S-SRV) 6S
SW25Hz 7S
TRACK. TRIG. 8S
CTL 9S
CTL DIV. 10S
REVERSE 11S
CORRECT 1 12S
CORRECT 2 13S
CTL DUTY 14S
C.FG 15S
X.TEST 16S
EP 17S
SP 18S
CAPST. PHASE 19S
CAPST. SERVO 20S
To REAR JACK(II) (1F) - (13F) (p.2-9)
SW25Hz 1F
H.SYNC 2F
V.DRIVE 3F
4.43MHz 4F
SW25Hz-A 5F
5V 6F
GND 7F
V.CAPST. 8F
CAPST.GAIN 9F
A14V 10F
H.DRIVE 11F
LP 12F
EP 13F
TP601
TP602
TP604
TP605
TP606
TP607
TP608
C601 0.01
D601 1N4531
C602 0.022
C603 0.0033
C604 10/16
C605 0.001
C606 33/16
C607 220P
C608 27P
C609 4.7/25
C610 47/10
C611 0.01
C612 0.01
C613 0.022
C615 2.2/50
C616 1/50
C617 0.033
C618 0.47/50
C619 10/16
C620 0.47/50
C621 10/16
C622 0.22
C623 0.001
C625 0.01
C632 2.2/50
C637 0.01
R601 680
R603 680
R604 680
R605 47K
R606 1K
R607 220K
R608 1M
R609 47K
R610 10K
R611 39K
R612 1M
R613 270K
R614 33K
R615 56K
R616 1M
R617 560K
R618 470K
R619 47K
R620 8.2K
R621 100K
R622 56K
R623 82K
R624 1M
R625 150K
R627 4.7K
R630 39K
R631 12K
R632 2.7K
R633 470
R634 10
R635 1K
R636 100
R637 100
R650 100K
R652 47K
R653 100K
R654 560K
R657 2.2K
R660 820K
R661 12K
R662 22K
R663 1K
R664 15K
R665 12K
R666 330K
R667 330K
QR601 KSR1004
QR603 DTA144ES
QR607 KSR1004
Q602 KSC945C
Q604 KSC945C
Q605 KSC945C
Q608 2SA933S
Q609 2SA933S
D602 1N4531
D604 1N4531
D605 1N4531
D606 1N4531
RT601 220K-B
RT601 HEAD SWITCHING POINT
PG688
1 3.58MHz
2 5V
3 GND
4 GND
To 3.58MHz GEN PG1688 (p.2-6)
PG603
3 CTL(+)
2 CTL(-)
1 GND
To AUDIO/ CONTROL HEAD PG3 VIA CN3
IC601(SRV) HD49741N SERVO CONTROL
CTL
CFG
DATA DECODER
EACH STAGE
REF25 RESET
M.CUT
S6
OFF
ON
SW25M GEN
SW25M GEN
AMP3
CTL DUTY DET
SHAPE
+B
GND
S3
SEARCH OFF
CTL PB AMP
S2
S1
CTL REC AMP
DATA
CTL/ INDEX GEN
HORI. PULSE GEN
BLANK PULSE GEN
S7
ART.V SYNC GEN
V.SYNC SEP
P1
S5
TRICK
REF25 GEN
CLOCK GEN
REF25.2 GEN
TRACK MM
S4
PIN 55
DIVIDE
SP:20 LP:10
PIN 56
6 DIVIDE
SW25 GEN
TACH SHIFT MM
1/2
DATA
SPEED SELECTOR
LP SP SP
CTL MM
GND
CYL.SELECT A B
AMP 1
CYL. SPEED DET
CYL. PHASE DET
NTSC/ PAL
CAPST PHASE DET
CAPST SPEED DET
AMP 2
B+
To CYL.MOTOR DRIVE (1C) - (6C) (p.2-12)
A14V 1C
TACH PULSE 2C
CYL.FG 3C
CYL.SERVO 4C
5V 5C
GND 6C
To CAPSTAN MOTOR PG1M (p.2-12)
PG644
CAPST.GAIN 1
GND 2
C.FG 3
V.REF 4
CAPST.SERVO 5
REVERSE 6
5V 7
V.CAPST. 8
REC/PB CYLINDER
REC CYLINDER
REC CAPSTAN
PB CAPSTAN
REC/PB CAPSTAN
WAVEFORM No.
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND(REC)MODE
MAIN(SERVO SECTION) P.C.B



MAIN(SERVO SECTION) P.C.B



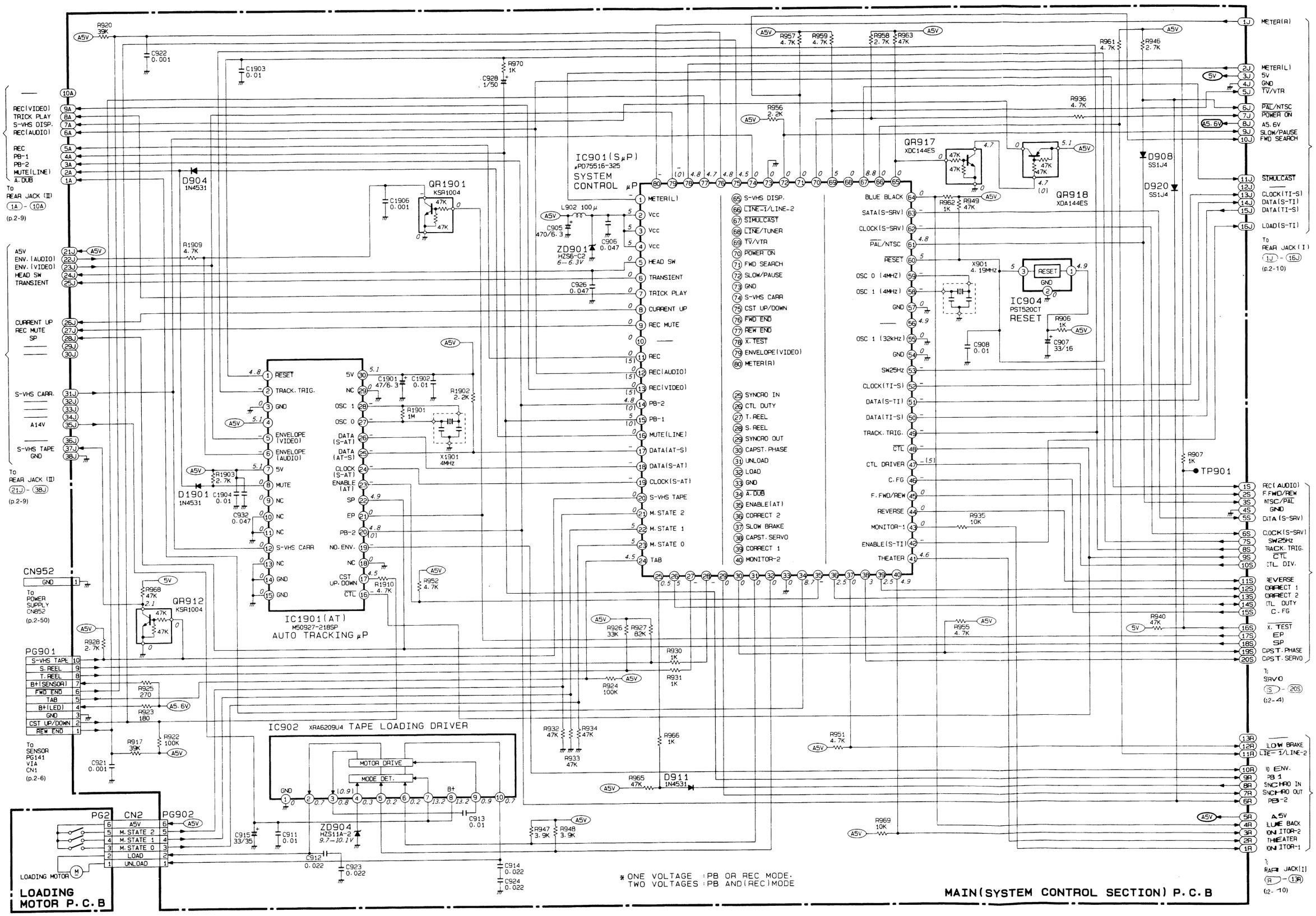
SENSOR P.C.B

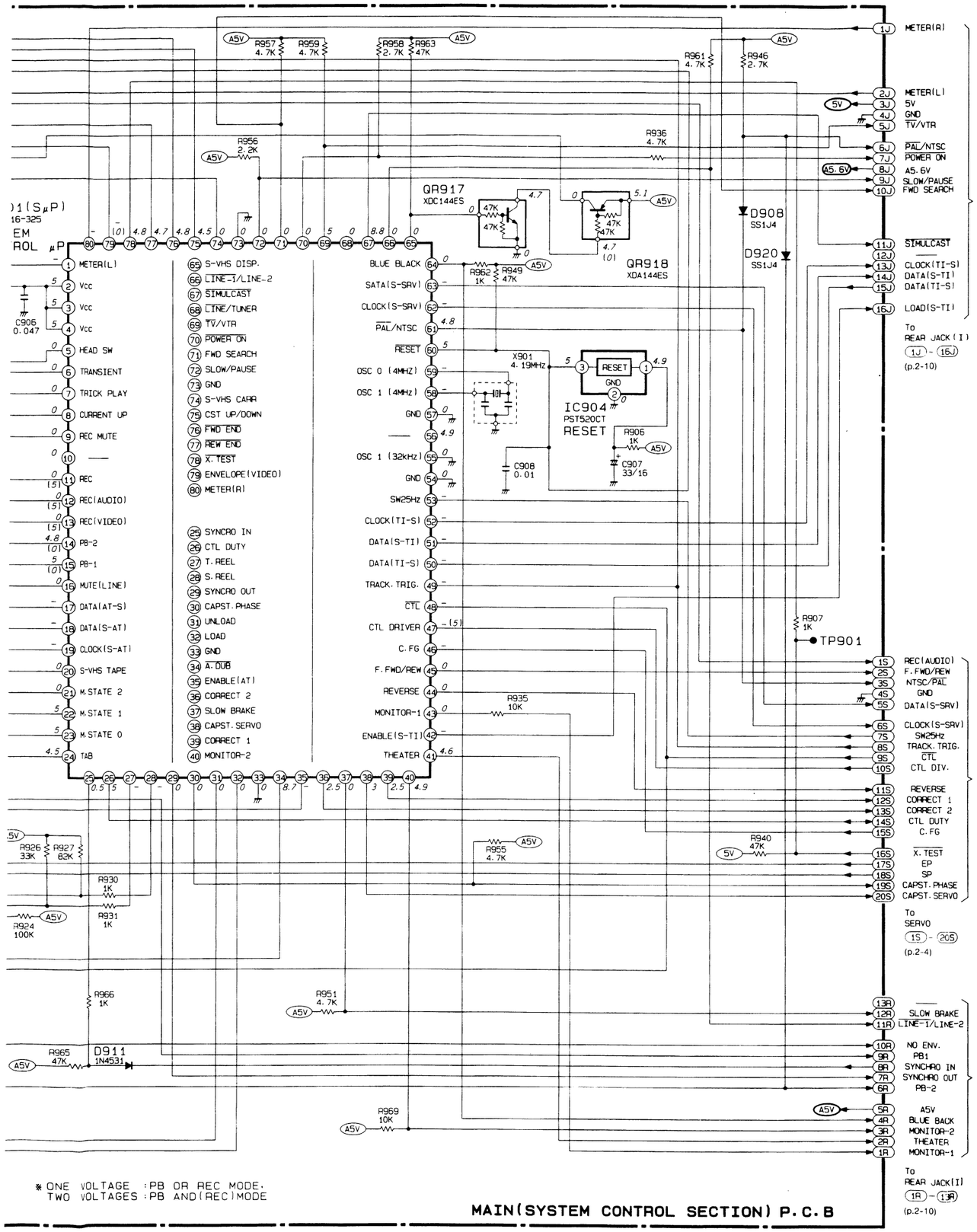


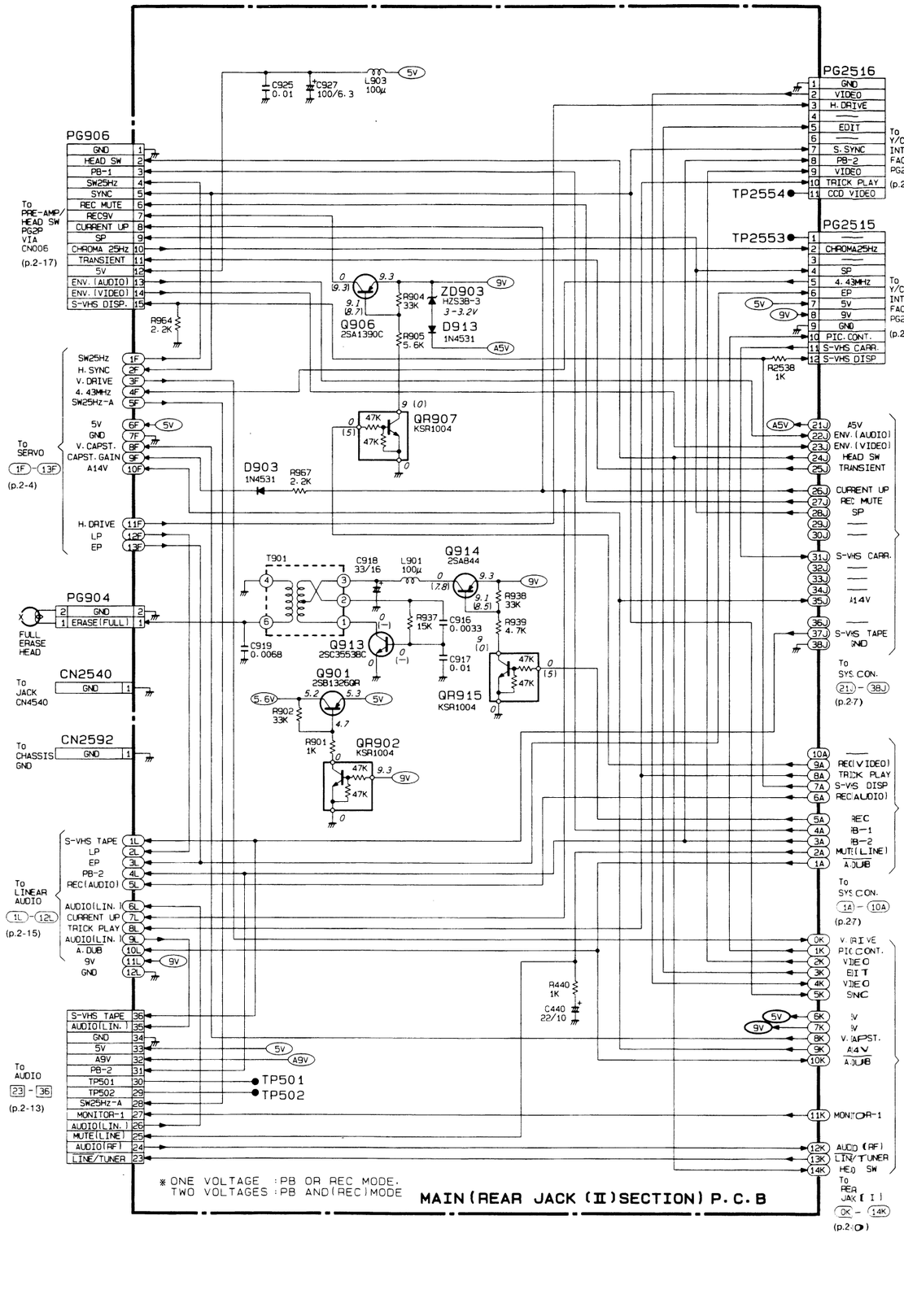
3.58MHz GEN P.C.B

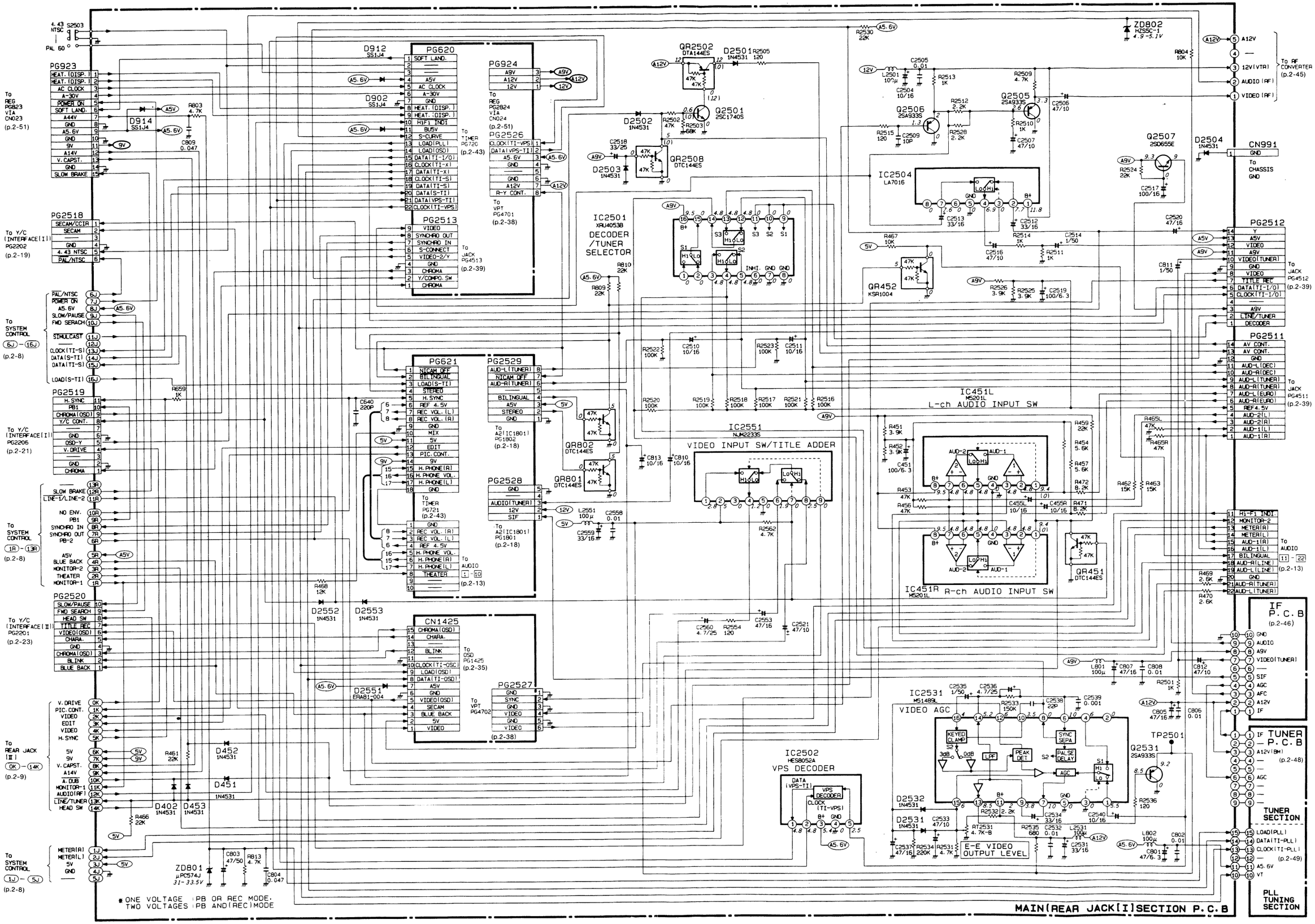
1-B IC601-1 5.0Vp-p 1V/5.0m sec. cm PLAY	2-A IC601-6 2.5Vp-p 0.5V/2.0m sec cm REC/PLAY	3-A IC601-7 3.3Vp-p 0.5V/10.0m sec. cm REC/PLAY	4-A IC601-9 3.4Vp-p 1V/2.0m sec cm REC/PLAY
5-A IC601-29 4.1Vp-p 1V/10.0m sec cm REC	6-A IC601-30 2.6Vp-p 1V/10.0m sec. cm REC	7-B IC601-34 1.7Vp-p 0.5V/10.0m sec. cm PLAY	8-B IC601-35 1.7Vp-p 0.5V/10.0m sec. cm PLAY
9-B IC601-36 1.7Vp-p 0.5V/10.0m sec. cm PLAY	10-A IC601-39 5.0Vp-p 1V/10.0m sec. cm REC/PLAY	11-A IC601-42 620mVp-p 0.2V/2.0μ sec. cm REC/PLAY	12-A IC601-45 5.1Vp-p 1V/10.0m sec. cm REC/PLAY
13-A IC601-46 5.1Vp-p 1V/10.0m sec. cm REC/PLAY	14-A IC601-50 4.3Vp-p 1V/20.0μ sec. cm REC/PLAY	15-A IC601-55 5.1Vp-p 1V/500μ sec. cm REC/PLAY	

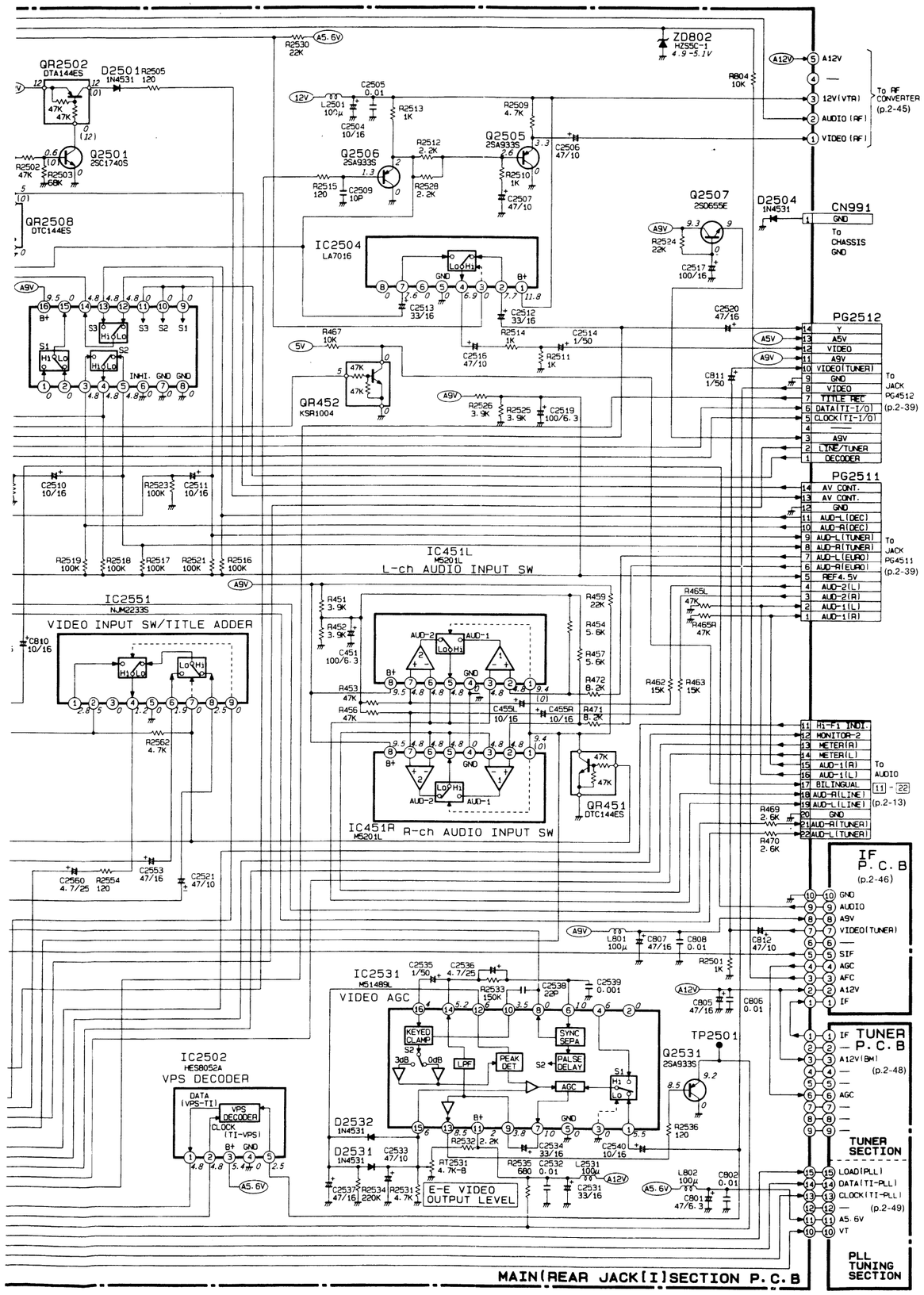
SERVO WAVEFORMS

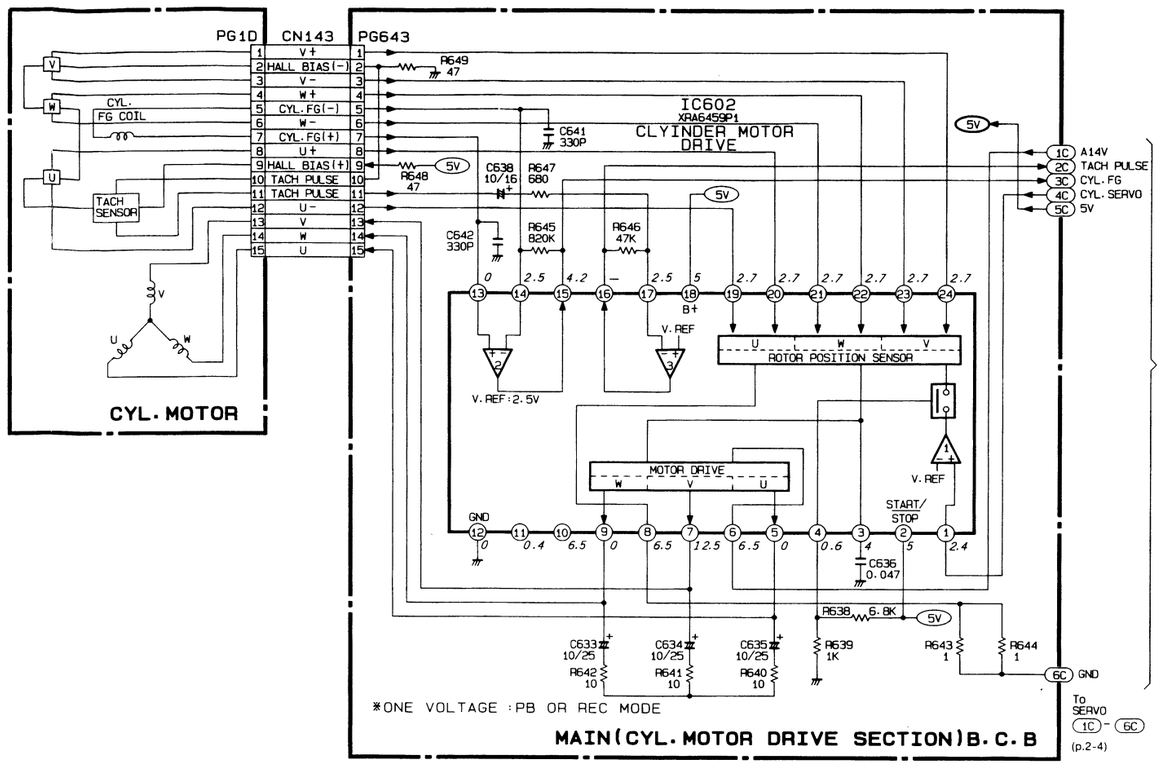

IC901(SμP)
μPD75516-325
SYSTEM CONTROL μP
IC1901(AT)
M50927-218SP
AUTO TRACKING μP
IC902 XRA6209U4 TAPE LOADING DRIVER
IC904
PST520CT
RESET
QR1901
KSR1004
QR912
KSR1004
QR917
XDC144ES
QR918
XDA144ES
D904
1N4531
D1901
1N4531
D911
1N4531
D908
SS1J4
D920
SS1J4
ZD901
HZS6-C2
6-6.3V
ZD904
HZ511A-2
9.7-10.1V
X901
4.19MHz
X1901
4MHz
CN952
PG901
PG902
PG2
CN2
TP901
LOADING MOTOR
MOTOR DRIVE
MODE DET.
METER(R)
METER(L)
5V
GND
TV/VTR
PAL/NTSC
POWER ON
A5.6V
SLOW/PAUSE
FWD SEARCH
SIMULCAST
CLOCK(TI-S)
DATA(S-TI)
DATA(TI-S)
LOAD(S-TI)
REC(VIDEO)
TRICK PLAY
S-VHS DISP.
REC(AUDIO)
REC
PB-1
PB-2
MUTE(LINE)
A.DUB
A5V
ENV.(AUDIO)
ENV.(VIDEO)
HEAD SW
TRANSIENT
CURRENT UP
REC MUTE
SP
S-VHS CARR.
A14V
S-VHS TAPE
GND
To REAR JACK (II) (1A) - (10A) (p.2-9)
To REAR JACK (II) (21J) - (38J) (p.2-9)
To REAR JACK (I) (1J) - (16J) (p.2-10)
To POWER SUPPLY CN852 (p.2-50)
To SENSOR PG141 VIA CN1 (p.2-6)
To SERVO (1S) - (20S) (p.2-4)
To REAR JACK(I) (1A) - (13A) (p.2-10)
LOW BRAKE
LINE-1/LINE-2
ENV.
PB-1
SYNCHRO IN
SYNCHRO OUT
PB-2
A5V
LINE BACK
MONITOR-2
THEATER
MONITOR-1
RESET
TRACK. TRIG.
CTL
CTL DRIVER
C.FG
F.FWD/REV
REVERSE
MONITOR-1
ENABLE(S-TI)
THEATER
OSC 0 (4MHZ)
OSC 1 (4MHZ)
OSC 1 (32kHz)
SW25Hz
CLOCK(S-SRV)
DATA(S-SRV)
BLUE BLACK
SYNCRO IN
CTL DUTY
T.REEL
S.REEL
SYNCRO OUT
CAPST.PHASE
UNLOAD
LOAD
A.DUB
ENABLE(AT)
CORRECT 2
SLOW BRAKE
CAPST.SERVO
CORRECT 1
MONITOR-2
S-VHS DISP.
LINE-1/LINE-2
SIMULCAST
LINE/TUNER
TV/VTR
POWER ON
FWD SEARCH
SLOW/PAUSE
GND
S-VHS CARR
CST UP/DOWN
FWD END
REW END
X.TEST
ENVELOPE(VIDEO)
METER(R)
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND(REC)MODE
MAIN(SYSTEM CONTROL SECTION) P.C.B
LOADING MOTOR P.C.B

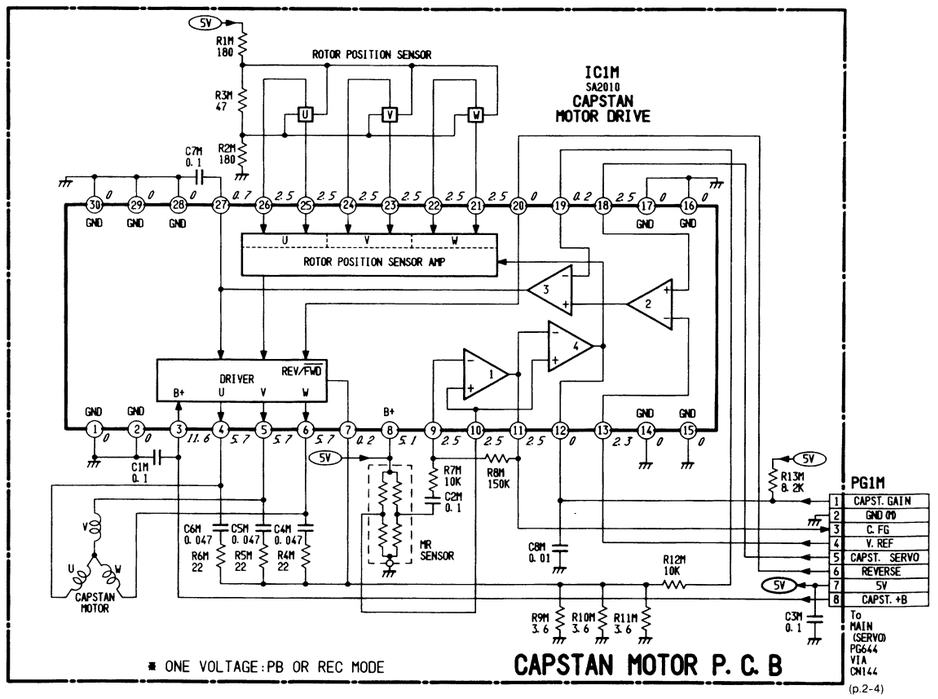

)1(SμP)
16-325
EM
ROL μP
METER(L)
Vcc
Vcc
Vcc
HEAD SW
TRANSIENT
TRICK PLAY
CURRENT UP
REC MUTE
REC
REC(AUDIO)
REC(VIDEO)
PB-2
PB-1
MUTE(LINE)
DATA(AT-S)
DATA(S-AT)
CLOCK(S-AT)
S-VHS TAPE
M.STATE 2
M.STATE 1
M.STATE 0
TAB
S-VHS DISP.
LINE-1/LINE-2
SIMULCAST
LINE/TUNER
TV/VTR
POWER ON
FWD SEARCH
SLOW/PAUSE
GND
S-VHS CARR
CST UP/DOWN
FWD END
REW END
X-TEST
ENVELOPE(VIDEO)
METER(R)
SYNCRO IN
CTL DUTY
T. REEL
S. REEL
SYNCRO OUT
CAPST. PHASE
UNLOAD
LOAD
GND
A. DUB
ENABLE(AT)
CORRECT 2
SLOW BRAKE
CAPST. SERVO
CORRECT 1
MONITOR-2
BLUE BACK
SATA(S-SRV)
CLOCK(S-SRV)
PAL/NTSC
RESET
OSC 0 (4MHZ)
OSC 1 (4MHZ)
GND
OSC 1 (32kHz)
GND
SW25Hz
CLOCK(TI-S)
DATA(S-TI)
DATA(TI-S)
TRACK. TRIG.
CTL
CTL DRIVER
C.FG
F.FWD/REW
REVERSE
MONITOR-1
ENABLE(S-TI)
THEATER
R957 4.7K
R959 4.7K
R958 2.7K
R963 47K
R961 4.7K
R946 2.7K
R956 2.2K
R936 4.7K
QR917 XDC144ES
QR918 XDA144ES
D908 SS1J4
D920 SS1J4
R962 1K
R949 47K
X901 4.19MHz
IC904 PST520CT
RESET
R906 1K
C907 33/16
C908 0.01
C905 0.047
R907 1K
TP901
R935 10K
R926 33K
R927 82K
R924 100K
R930 1K
R931 1K
R955 4.7K
R940 47K
R966 1K
R965 47K
D911 1N4531
R951 4.7K
R969 10K
METER(R)
METER(L)
5V
GND
TV/VTR
PAL/NTSC
POWER ON
A5.6V
SLOW/PAUSE
FWD SEARCH
SIMULCAST
CLOCK(TI-S)
DATA(S-TI)
DATA(TI-S)
LOAD(S-TI)
To REAR JACK(I) 1J - 16J (p.2-10)
REC(AUDIO)
F.FWD/REW
NTSC/PAL
GND
DATA(S-SRV)
CLOCK(S-SRV)
SW25Hz
TRACK. TRIG.
CTL
CTL DIV.
REVERSE
CORRECT 1
CORRECT 2
CTL DUTY
C.FG
X-TEST
EP
SP
CAPST. PHASE
CAPST. SERVO
To SERVO 1S - 20S (p.2-4)
SLOW BRAKE
LINE-1/LINE-2
NO ENV.
PB1
SYNCRO IN
SYNCRO OUT
PB-2
A5V
BLUE BACK
MONITOR-2
THEATER
MONITOR-1
To REAR JACK(I) 1R - 13R (p.2-10)
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND(REC)MODE
MAIN(SYSTEM CONTROL SECTION) P.C.B

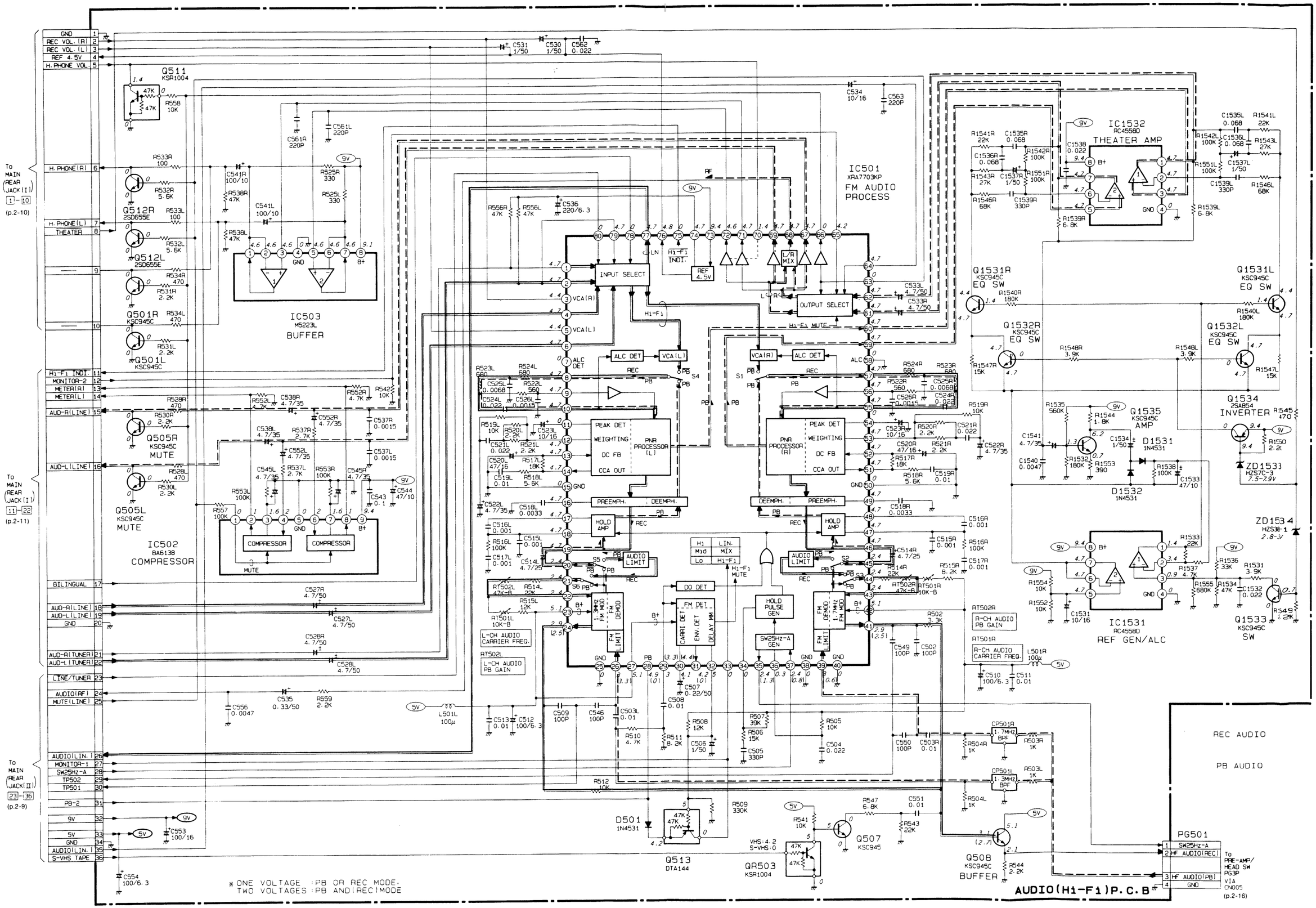

C925 0.01
C927 100/6.3
L903 100μ
PG2516
GND
VIDEO
H.DRIVE
EDIT
S.SYNC
PB-2
VIDEO
TRICK PLAY
CCD VIDEO
To Y/C INTERFACE PG2204 (p.2-19)
TP2554
PG2515
TP2553
CHROMA25Hz
SP
4.43MHz
EP
5V
9V
GND
PIC. CONT.
S-VHS CARR.
S-VHS DISP
To Y/C INTERFACE PG2205 (p.2-19)
R2538 1K
PG2516
A5V
ENV.(AUDIO)
ENV.(VIDEO)
HEAD SW
TRANSIENT
CURRENT UP
REC MUTE
SP
S-VHS CARR.
A14V
S-VHS TAPE
A.DUB
REC(VIDEO)
TRICK PLAY
S-VHS DISP
REC(AUDIO)
REC
PB-1
PB-2
MUTE(LINE)
A.DUB
To SYS CON. 1A - 10A (p.2-7)
V.DRIVE
PIC CONT.
VIDEO
BLT
VIDEO
SYNC
5V
9V
V.CAPST.
A14V
A.DUB
MONITOR-1
AUDIO(RF)
LIN/TUNER
HEAD SW
To REAR JACK(I) 0K - 14K (p.2-9)
PG2516
PG2515
PG2514
To PRE-AMP/HEAD SW PG2P VIA CN006 (p.2-17)
GND
HEAD SW
PB-1
SW25Hz
SYNC
REC MUTE
REC9V
CURRENT UP
SP
CHROMA 25Hz
TRANSIENT
5V
ENV.(AUDIO)
ENV.(VIDEO)
S-VHS DISP.
R964 2.2K
Q906 2SA1390C
R904 33K
ZD903 HZS3B-3 3-3.2V
D913 1N4531
R905 5.6K
To SERVO 1F - 13F (p.2-4)
SW25Hz
H.SYNC
V.DRIVE
4.43MHz
SW25Hz-A
5V
GND
V.CAPST.
CAPST.GAIN
A14V
H.DRIVE
LP
EP
D903 1N4531
R867 2.2K
QR907 KSR1004
T901
C918 33/16
L901 100μ
Q914 2SA844
R938 33K
R939 4.7K
C916 0.0033
R937 15K
C917 0.01
Q913 2SC3553BC
C919 0.0068
PG6904
GND
ERASE(FULL)
FULL ERASE HEAD
CN2540
To JACK CN4540
Q901 2SB1326QR
R902 33K
R901 1K
QR902 KSR1004
QR915 KSR1004
CN2592
To CHASSIS GND
S-VHS TAPE
LP
EP
PB-2
REC(AUDIO)
To LINEAR AUDIO 1L - 12L (p.2-15)
AUDIO(LIN.)
CURRENT UP
TRICK PLAY
AUDIO(LIN.)
A.DUB
9V
GND
S-VHS TAPE
AUDIO(LIN.)
GND
5V
A9V
PB-2
TP501
TP502
SW25Hz-A
MONITOR-1
AUDIO(LIN.)
MUTE(LINE)
AUDIO(RF)
LINE/TUNER
To AUDIO 23 - 36 (p.2-13)
TP501
TP502
R440 1K
C440 22/10
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND(REC)MODE
MAIN(REAR JACK(II)SECTION) P.C.B

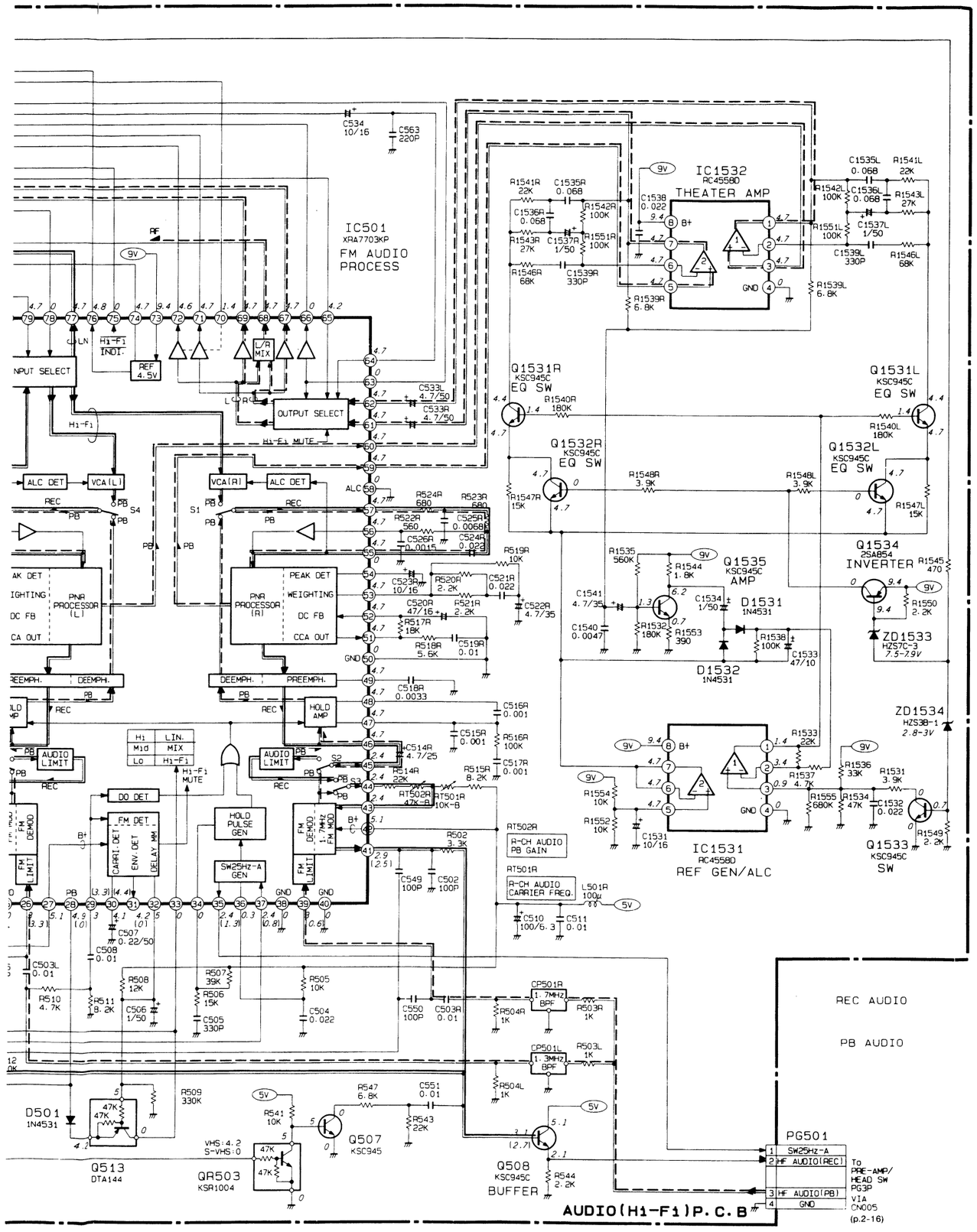

MAIN(REAR JACK[I])SECTION P.C.B
IC2501 XRU4053B DECODER /TUNER SELECTOR
IC2502 HES8052A VPS DECODER
IC2504 LA7016
IC451L M5201L L-ch AUDIO INPUT SW
IC451R M5201L R-ch AUDIO INPUT SW
IC2531 M51489L VIDEO AGC
IC2551 NJM2233S VIDEO INPUT SW/TITLE ADDER
QR2502 DTA144ES
QR2508 DTC144ES
QR802 DTC144ES
QR801 DTC144ES
QR452 KSR1004
QR451 DTC144ES
Q2501 2SC1740S
Q2505 2SA933S
Q2506 2SA933S
Q2507 2SD655E
Q2531 2SA933S
D2501 1N4531
D2502 1N4531
D2503 1N4531
D2504 1N4531
D912 SS1J4
D902 SS1J4
D914 SS1J4
D2552 1N4531
D2553 1N4531
D2551 ERA81-004
D452 1N4531
D451 1N4531
D402 1N4531
D453 1N4531
ZD802 HZS5C-1 4.9-5.1V
ZD801 μPC574J 31-33.5V
PG923
PG620
PG621
PG924
PG2526
PG2513
PG2529
PG2528
PG2527
PG2518
PG2519
PG2520
CN1425
CN991
PG2512
PG2511
To REG PG823 VIA CN023 (p.2-51)
To REG PG2824 VIA CN024 (p.2-51)
To TIMER PG720 (p.2-43)
To VPT PG4701 (p.2-38)
To JACK PG4513 (p.2-39)
To OSD PG1425 (p.2-35)
To VPT PG4702 (p.2-38)
To A2[IC1801] PG1802 (p.2-18)
To A2[IC1801] PG1801 (p.2-18)
To TIMER PG721 (p.2-43)
To AUDIO (p.2-13)
To Y/C [INTERFACE[I]] PG2202 (p.2-19)
To Y/C [INTERFACE[II]] PG2201 (p.2-23)
To Y/C [INTERFACE[I]] PG2206 (p.2-21)
To SYSTEM CONTROL (p.2-8)
To REAR JACK [II] (p.2-9)
To RF CONVERTER (p.2-45)
To JACK PG4512 (p.2-39)
To JACK PG4511 (p.2-39)
To CHASSIS GND
IF P.C.B (p.2-46)
TUNER P.C.B (p.2-48)
TUNER SECTION
PLL TUNING SECTION
(p.2-49)
E-E VIDEO OUTPUT LEVEL
* ONE VOLTAGE :PB OR REC MODE.
TWO VOLTAGES :PB AND[REC]MODE

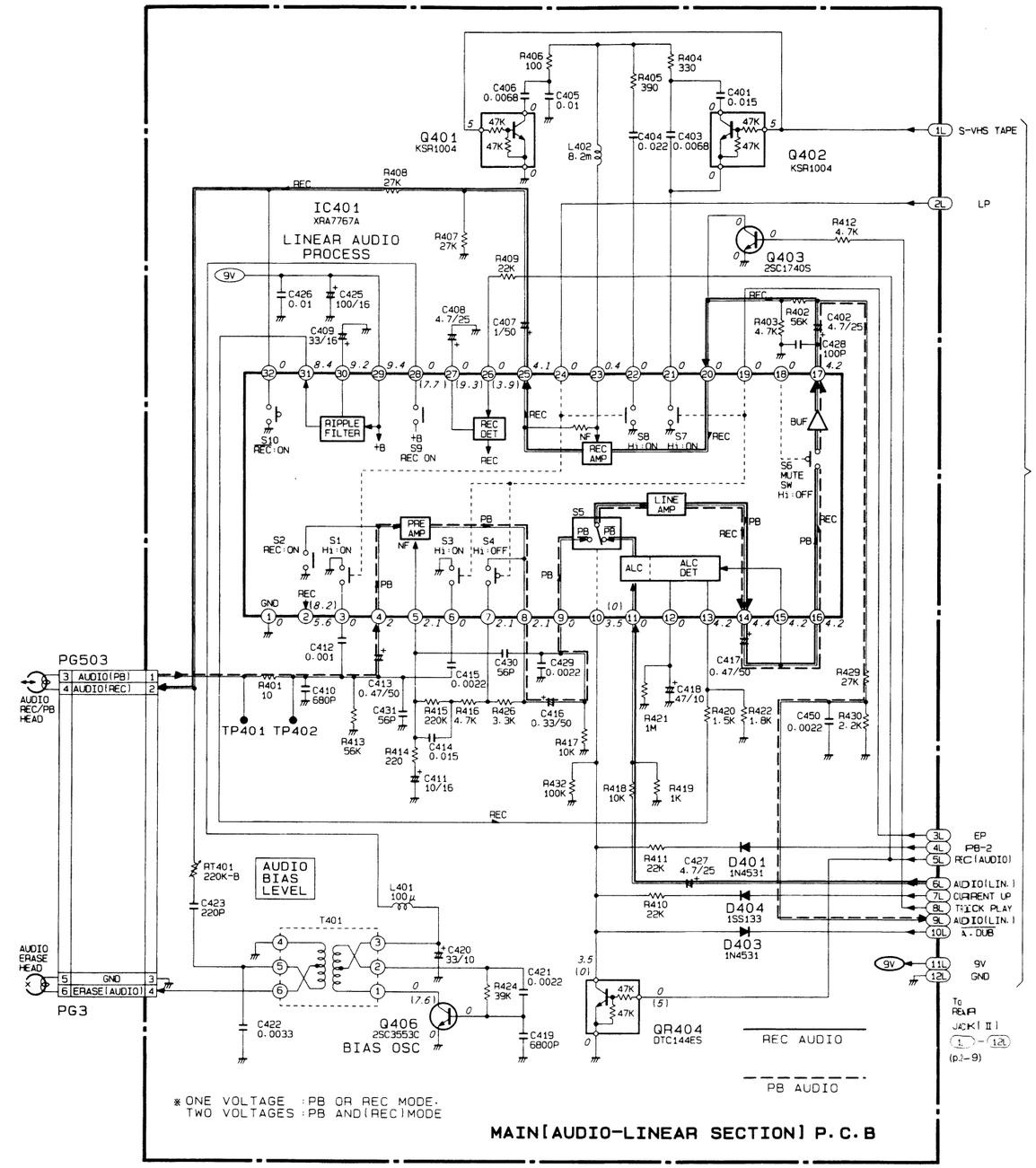

QR2502 DTA144ES
D2501 1N4531
R2505 120
R2530 22K
A5.6V
ZD802 HZS5C-1 4.9-5.1V
R804 10K
A12V
12V
C2505 0.01
L2501 100μ
C2504 10/16
R2513 1K
R2509 4.7K
Q2505 2SA933S
C2506 47/10
R2512 2.2K
Q2506 2SA933S
R2515 120
C2509 10P
R2528 2.2K
R2510 1K
C2507 47/10
Q2507 2SD655E
A9V
R2524 22K
C2517 100/16
D2504 1N4531
CN991
GND
To CHASSIS GND
To RF CONVERTER (p.2-45)
A12V
12V(VTR)
AUDIO (RF)
VIDEO (RF)
QR2501 2SC1740S
R2502 47K
R2503 68K
QR2508 DTC144ES
IC2504 LA7016
C2513 33/16
C2512 33/16
C2520 47/16
C2514 1/50
C2516 47/10
R2514 1K
R2511 1K
R467 10K
QR452 KSR1004
47K
R2526 3.9K
R2525 3.9K
C2519 100/6.3
C811 1/50
PG2512
Y
A5V
VIDEO
A9V
VIDEO(TUNER)
GND
VIDEO
TITLE REC
DATA(TI-I/O)
CLOCK(TI-I/O)
A9V
LINE/TUNER
DECODER
To JACK PG4512 (p.2-39)
PG2511
AV CONT.
AV CONT.
GND
AUD-L(DEC)
AUD-R(DEC)
AUD-L(TUNER)
AUD-R(TUNER)
AUD-L(EURO)
AUD-R(EURO)
REF4.5V
AUD-2(L)
AUD-2(R)
AUD-1(L)
AUD-1(R)
To JACK PG4511 (p.2-39)
C2510 10/16
R2523 100K
C2511 10/16
R2519 100K
R2518 100K
R2517 100K
R2521 100K
R2516 100K
IC451L M5201L L-ch AUDIO INPUT SW
IC2551 NJM2233S VIDEO INPUT SW/TITLE ADDER
C810 10/16
R2562 4.7K
R451 3.9K
R452 3.9K
C451 100/6.3
R453 47K
R456 47K
R459 22K
R454 5.6K
R457 5.6K
R472 8.2K
R462 15K
R463 15K
R465L 47K
R465R 47K
C455L 10/16
C455R 10/16
R471 8.2K
AUD-2
AUD-1
IC451R M5201L R-ch AUDIO INPUT SW
QR451 DTC144ES
R469 2.6K
R470 2.6K
11 Hi-F1 IND.
12 MONITOR-2
13 METER(R)
14 METER(L)
15 AUD-1(R)
16 AUD-1(L)
17 BILINGUAL
18 AUD-R(LINE)
19 AUD-L(LINE)
20 GND
21 AUD-R(TUNER)
22 AUD-L(TUNER)
To AUDIO 11 - 22 (p.2-13)
IF P.C.B (p.2-46)
GND
AUDIO
A9V
VIDEO(TUNER)
—
SIF
AGC
AFC
A12V
IF
C2560 4.7/25
R2554 120
C2553 47/16
C2521 47/10
IC2502 HES8052A VPS DECODER
DATA (VPS-TI)
CLOCK (TI-VPS)
A5.6V
IC2531 M51489L VIDEO AGC
C2535 1/50
C2536 4.7/25
R2533 150K
C2538 22P
C2539 0.001
KEYED CLAMP
SYNC SEPA
PEAK DET
PULSE DELAY
LPF
AGC
3dB
0dB
D2532 1N4531
D2531 1N4531
C2533 47/10
R2532 2.2K
C2534 33/16
C2540 10/16
AT2531 4.7K-B
R2535 680
C2532 0.01
L2531 100μ
C2531 33/16
C2537 47/16
R2534 220K
R2531 4.7K
E-E VIDEO OUTPUT LEVEL
TP2501
Q2531 2SA933S
R2536 120
L801 100μ
C807 47/16
C808 0.01
C812 47/10
R2501 1K
C805 47/16
C806 0.01
L802 100μ
C802 0.01
C801 47/6.3
TUNER P.C.B (p.2-48)
IF
—
AGC
—
—
—
TUNER SECTION
LOAD(PLL)
DATA(TI-PLL)
CLOCK(TI-PLL)
—
A5.6V
VT
(p.2-49)
PLL TUNING SECTION
MAIN(REAR JACK(I)SECTION P.C.B

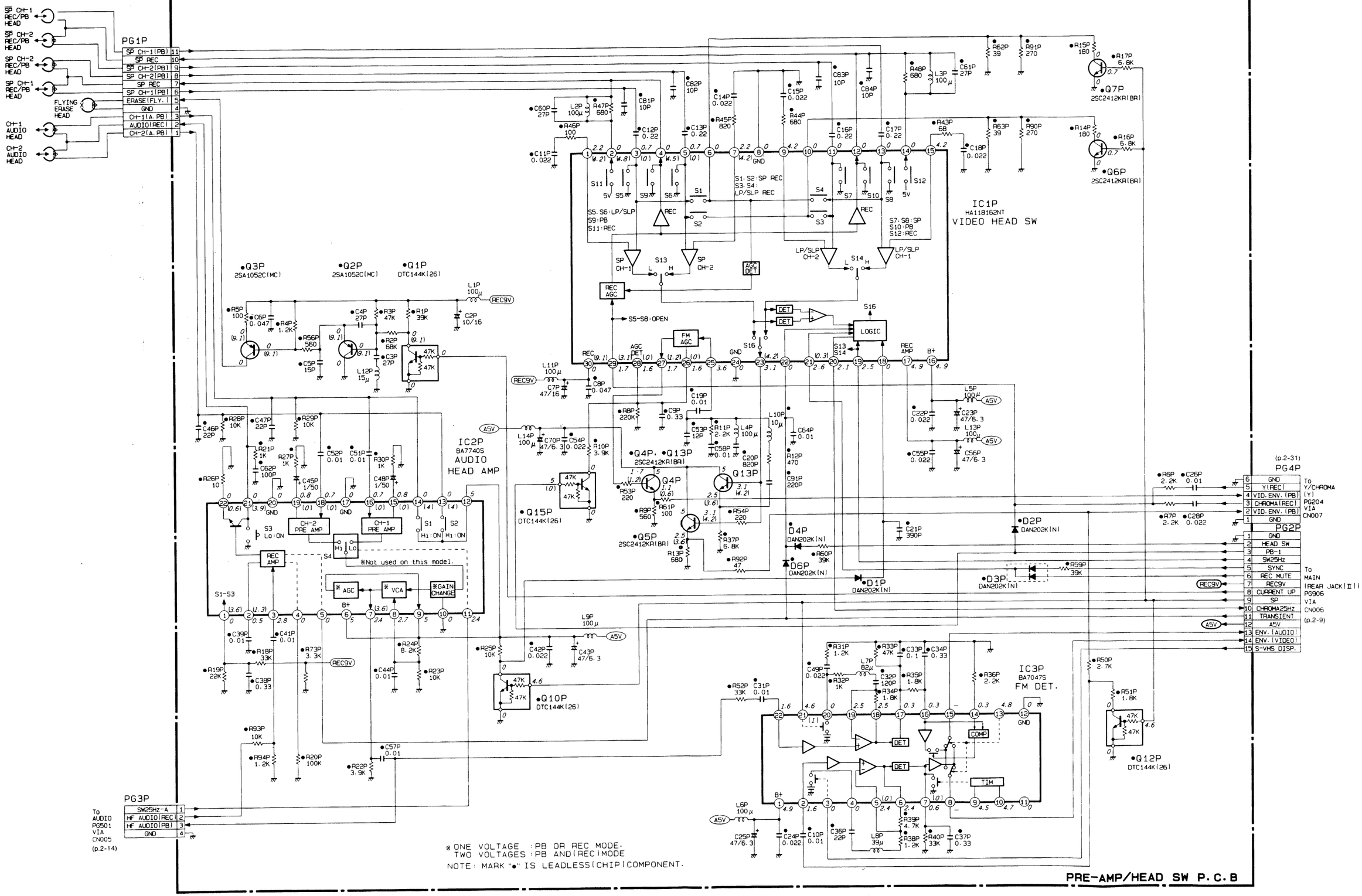

PG1D
CN143
PG643
V+
HALL BIAS(-)
V-
W+
CYL. FG(-)
W-
CYL. FG(+)
U+
HALL BIAS(+)
TACH PULSE
TACH PULSE
U-
V
W
U
CYL. FG COIL
TACH SENSOR
CYL. MOTOR
R649 47
R648 47
5V
IC602 XRA6459P1 CLYINDER MOTOR DRIVE
C641 330P
C638 10/16
R647 680
C642 330P
R645 820K
R646 47K
B+
V. REF
V. REF:2.5V
ROTOR POSITION SENSOR
MOTOR DRIVE
START/ STOP
C636 0.047
C633 10/25
C634 10/25
C635 10/25
R642 10
R641 10
R640 10
R638 6.8K
R639 1K
R643 1
R644 1
GND
1C A14V
2C TACH PULSE
3C CYL. FG
4C CYL. SERVO
5C 5V
6C GND
To SERVO 1C - 6C (p.2-4)
*ONE VOLTAGE :PB OR REC MODE
MAIN(CYL. MOTOR DRIVE SECTION)B.C.B

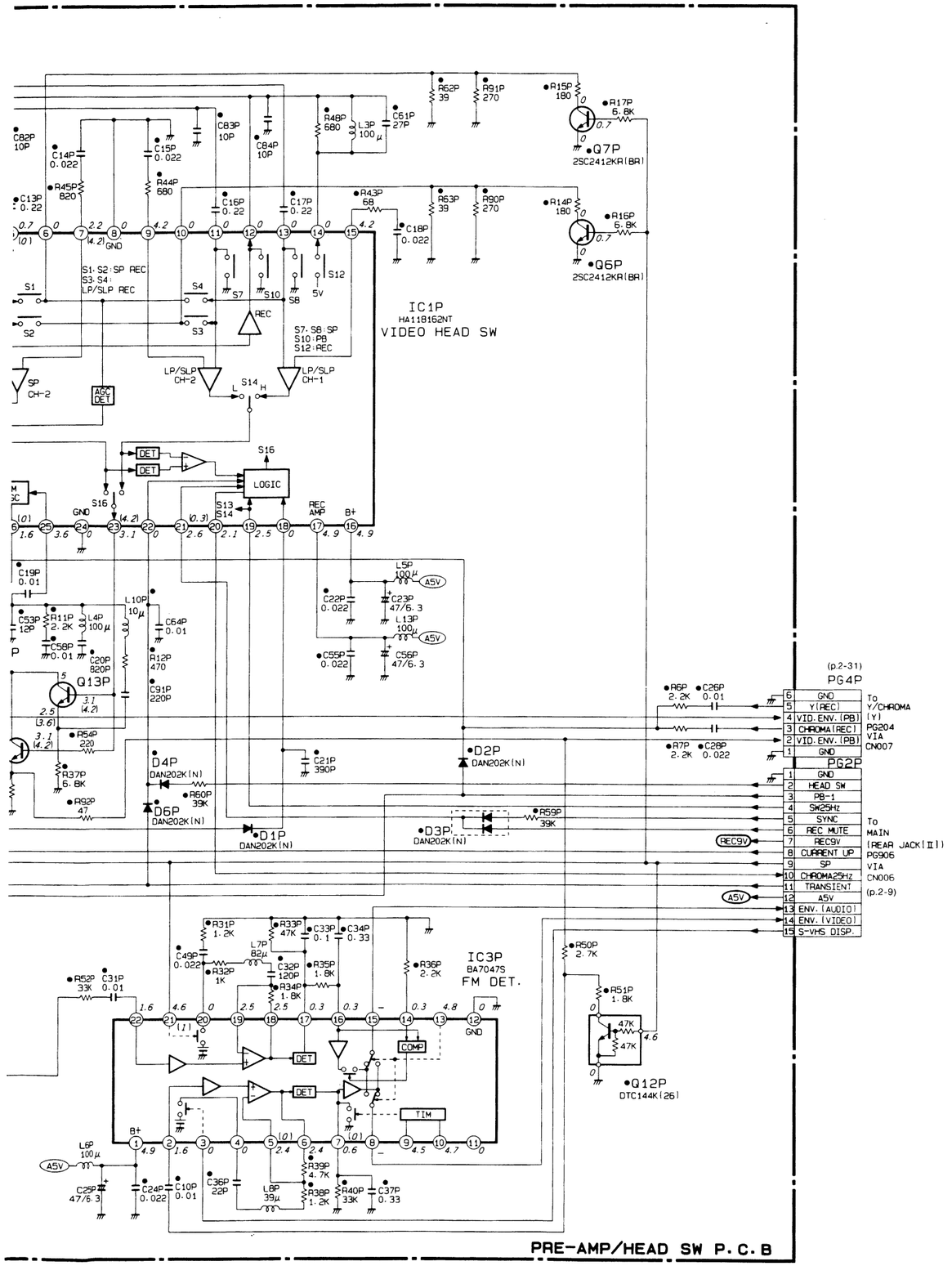

5V
R1M 180
R3M 47
R2M 180
C7M 0.1
ROTOR POSITION SENSOR
IC1M SA2010 CAPSTAN MOTOR DRIVE
ROTOR POSITION SENSOR AMP
DRIVER
REV/FWD
C1M 0.1
R7M 10K
C2M 0.1
R8M 150K
R13M 8.2K
C6M 0.047
C5M 0.047
C4M 0.047
R6M 22
R5M 22
R4M 22
MR SENSOR
C8M 0.01
R12M 10K
R9M 3.6
R10M 3.6
R11M 3.6
C3M 0.1
CAPSTAN MOTOR
PG1M
1 CAPST. GAIN
2 GND
3 C. FG
4 V. REF
5 CAPST. SERVO
6 REVERSE
7 5V
8 CAPST. +B
To MAIN (SERVO) PG644 VIA CN144
(p.2-4)
* ONE VOLTAGE:PB OR REC MODE
CAPSTAN MOTOR P.C.B


IC501
XRA7703KP
FM AUDIO
PROCESS
IC503
M5223L
BUFFER
IC502
BA6138
COMPRESSOR
IC1532
RC4558D
THEATER AMP
IC1531
RC4558D
REF GEN/ALC
INPUT SELECT
OUTPUT SELECT
VCA(R)
VCA(L)
ALC DET
PEAK DET
WEIGHTING
DC FB
CCA OUT
PNR PROCESSOR (L)
PNR PROCESSOR (R)
PREEMPH.
DEEMPH.
HOLD AMP
AUDIO LIMIT
FM DET
CARRI. DET
ENV. DET
DELAY AMP
DO DET
HOLD PULSE GEN
SW25Hz-A GEN
1.3MHz FM MOD
FM DEMOD
FM LIMIT
REF 4.5V
Hi-Fi MUTE
Hi-Fi INDI.
L/R MIX
Q511 KSR1004
Q512R 2SD655E
Q512L 2SD655E
Q501R KSC945C
Q501L KSC945C
Q505R KSC945C MUTE
Q505L KSC945C MUTE
Q1531R KSC945C EQ SW
Q1531L KSC945C EQ SW
Q1532R KSC945C EQ SW
Q1532L KSC945C EQ SW
Q1535 KSC945C AMP
Q1534 2SA854 INVERTER
Q1533 KSC945C SW
Q513 DTA144
QR503 KSR1004
Q507 KSC945
Q508 KSC945C BUFFER
D501 1N4531
D1531 1N4531
D1532 1N4531
ZD1533 HZS7C-3 7.5~7.9V
ZD1534 HZS8-1 2.8~3V
L501R 100μ
L501L 100μ
RT502L 47K-B 22K
RT501L 10K-B
RT502R 47K-B 22K
RT501R 10K-B
L-CH AUDIO CARRIER FREQ.
L-CH AUDIO PB GAIN
R-CH AUDIO PB GAIN
R-CH AUDIO CARRIER FREQ.
CP501R 1.7MHz BPF
CP501L 1.3MHz BPF
REC AUDIO
PB AUDIO
PG501
SW25Hz-A
HF AUDIO(REC)
HF AUDIO(PB)
GND
VIA CN005
(p.2-16)
AUDIO(Hi-Fi)P.C.B
GND
REC VOL.(R)
REC VOL.(L)
REF 4.5V
H.PHONE VOL.
H.PHONE(R)
H.PHONE(L)
THEATER
Hi-Fi INDI.
MONITOR-2
METER(R)
METER(L)
AUD-R(LINE)
AUD-L(LINE)
BILINGUAL
AUD-R(TUNER)
AUD-L(TUNER)
LINE/TUNER
AUDIO(RF)
MUTE(LINE)
AUDIO(LIN.)
MONITOR-1
SW25Hz-A
TP502
TP501
PB-2
9V
5V
GND
AUDIO(LIN.)
S-VHS TAPE
To MAIN (REAR JACK(I)) 1-10 (p.2-10)
To MAIN (REAR JACK(I)) 11-22 (p.2-11)
To MAIN (REAR JACK(II)) 23-36 (p.2-9)
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND REC MODE

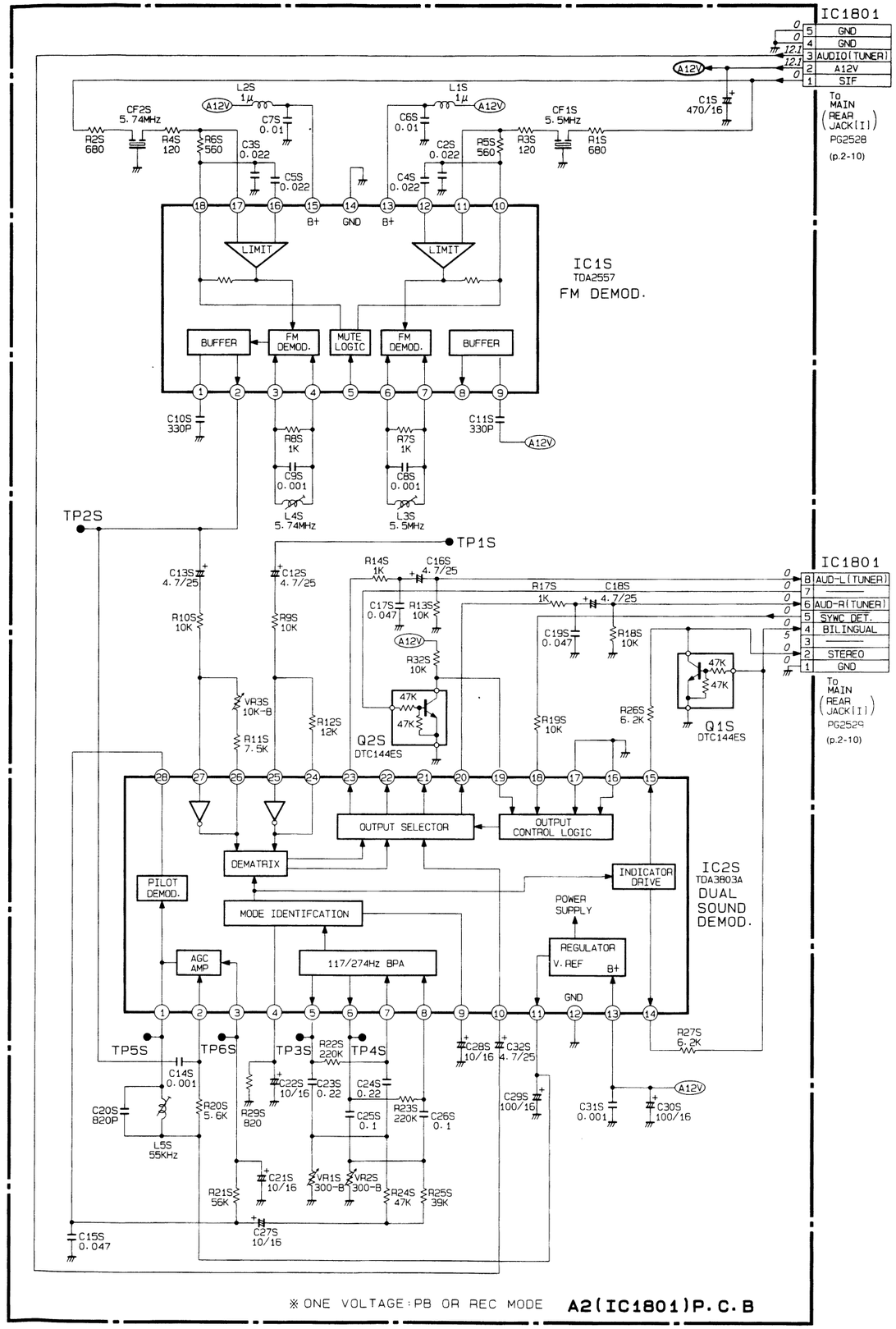

IC501
XRA7703KP
FM AUDIO
PROCESS
IC1532
RC4558D
THEATER AMP
IC1531
RC4558D
REF GEN/ALC
Q1531R
KSC945C
EQ SW
Q1531L
KSC945C
EQ SW
Q1532R
KSC945C
EQ SW
Q1532L
KSC945C
EQ SW
Q1534
2SA854
INVERTER
Q1535
KSC945C
AMP
Q1533
KSC945C
SW
Q507
KSC945
Q508
KSC945C
BUFFER
Q513
DTA144
QR503
KSR1004
ZD1533
HZS7C-3
7.5-7.9V
ZD1534
HZS3B-1
2.8-3V
D1531
1N4531
D1532
1N4531
D501
1N4531
INPUT SELECT
OUTPUT SELECT
ALC DET
VCA(L)
VCA(R)
ALC DET
PEAK DET
WEIGHTING
DC FB
CCA OUT
PNR PROCESSOR (R)
PNR PROCESSOR (L)
DEEMPH.
PREEMPH.
HOLD AMP
AUDIO LIMIT
DO DET
FM DET
CARRI. DET
ENV. DET
DELAY
FM DEMOD
FM LIMIT
HOLD PULSE GEN
SW25HZ-A GEN
L/R MIX
REF 4.5V
H1-F1 INDI.
H1-F1 MUTE
H1 LIN.
Mid MIX
Lo H1-F1
R-CH AUDIO PB GAIN
R-CH AUDIO CARRIER FREQ.
CP501R 1.7MHz BPF
CP501L 1.3MHz BPF
PG501
1 SW25HZ-A
2 HF AUDIO(REC)
3 HF AUDIO(PB)
4 GND
To PRE-AMP/ HEAD SW PG3P VIA CN005 (p.2-16)
REC AUDIO
PB AUDIO
AUDIO(H1-F1)P.C.B


IC401
XRA7767A
LINEAR AUDIO
PROCESS
Q401
KSR1004
Q402
KSR1004
Q403
2SC1740S
Q406
2SC3553C
BIAS OSC
QR404
DTC144ES
D401
1N4531
D403
1N4531
D404
1SS133
PG503
1 AUDIO(PB)
4 AUDIO(REC)
AUDIO REC/PB HEAD
TP401 TP402
AUDIO ERASE HEAD
5 GND
6 ERASE(AUDIO)
PG3
AUDIO BIAS LEVEL
RT401 220K-B
T401
L401 100μ
L402 8.2mH
S10 REC:ON
S2 REC:ON
S1 H1:ON
S3 H1:ON
S4 H1:OFF
S5
S6 MUTE SW H1:OFF
S7 H1:ON
S8 H1:ON
S9 REC ON
RIPPLE FILTER
REC DET
REC AMP
PRE AMP
LINE AMP
ALC DET
BUF
NF
1L S-VHS TAPE
2L LP
3L EP
4L PB-2
5L REC(AUDIO)
6L AUDIO(LIN.)
7L CURRENT UP
8L TRICK PLAY
9L AUDIO(LIN.) A.DUB
10L
11L 9V
12L GND
To REAR JACK(II) 1L-12L (p.2-9)
REC AUDIO
PB AUDIO
※ ONE VOLTAGE :PB OR REC MODE.
TWO VOLTAGES :PB AND(REC)MODE
MAIN(AUDIO-LINEAR SECTION) P.C.B


PG1P
SP CH-1 REC/PB HEAD
SP CH-2 REC/PB HEAD
FLYING ERASE HEAD
CH-1 AUDIO HEAD
CH-2 AUDIO HEAD
SP CH-1(PB) 11
SP REC 10
SP CH-2(PB) 9
SP REC 7
SP CH-1(PB) 6
ERASE(FLY.) 5
GND 4
CH-1(A.PB) 3
AUDIO(REC) 2
CH-2(A.PB) 1
IC1P
HA11B162NT
VIDEO HEAD SW
S1:S2:SP REC
S3:S4: LP/SLP REC
S5.S6:LP/SLP
S9:PB
S11:REC
S7.S8:SP
S10:PB
S12:REC
REC AGC
S5-S8:OPEN
FM AGC
LOGIC
REC AMP
IC2P
BA7740S
AUDIO
HEAD AMP
CH-2 PRE AMP
CH-1 PRE AMP
REC AMP
※Not used on this model.
※AGC
※VCA
※GAIN CHANGE
Q1P DTC144K(26)
Q2P 2SA1052C(MC)
Q3P 2SA1052C(MC)
Q4P, Q13P 2SC2412KR(BA)
Q5P 2SC2412KR(BA)
Q6P 2SC2412KR(BA)
Q7P 2SC2412KR(BA)
Q10P DTC144K(26)
Q12P DTC144K(26)
Q15P DTC144K(26)
D1P DAN202K(N)
D2P DAN202K(N)
D3P DAN202K(N)
D4P DAN202K(N)
D6P DAN202K(N)
IC3P
BA7047S
FM DET.
PG3P
To AUDIO PG501 VIA CN005 (p.2-14)
SW25Hz-A 1
HF AUDIO(REC) 2
HF AUDIO(PB) 3
GND 4
PG4P
(p.2-31)
To Y/CHROMA (Y) PG204 VIA CN007
GND 6
Y(REC) 5
VID.ENV.(PB) 4
CHROMA(REC) 3
VID.ENV.(PB) 2
GND 1
PG2P
To MAIN (REAR JACK(II)) PG906 VIA CN006 (p.2-9)
GND 1
HEAD SW 2
PB-1 3
SW25Hz 4
SYNC 5
REC MUTE 6
REC9V 7
CURRENT UP 8
SP 9
CHROMA25Hz 10
TRANSIENT 11
A5V 12
ENV.(AUDIO) 13
ENV.(VIDEO) 14
S-VHS DISP. 15
※ONE VOLTAGE :PB OR REC MODE.
TWO VOLTAGES :PB AND(REC)MODE
NOTE: MARK "●" IS LEADLESS(CHIP)COMPONENT.
PRE-AMP/HEAD SW P.C.B

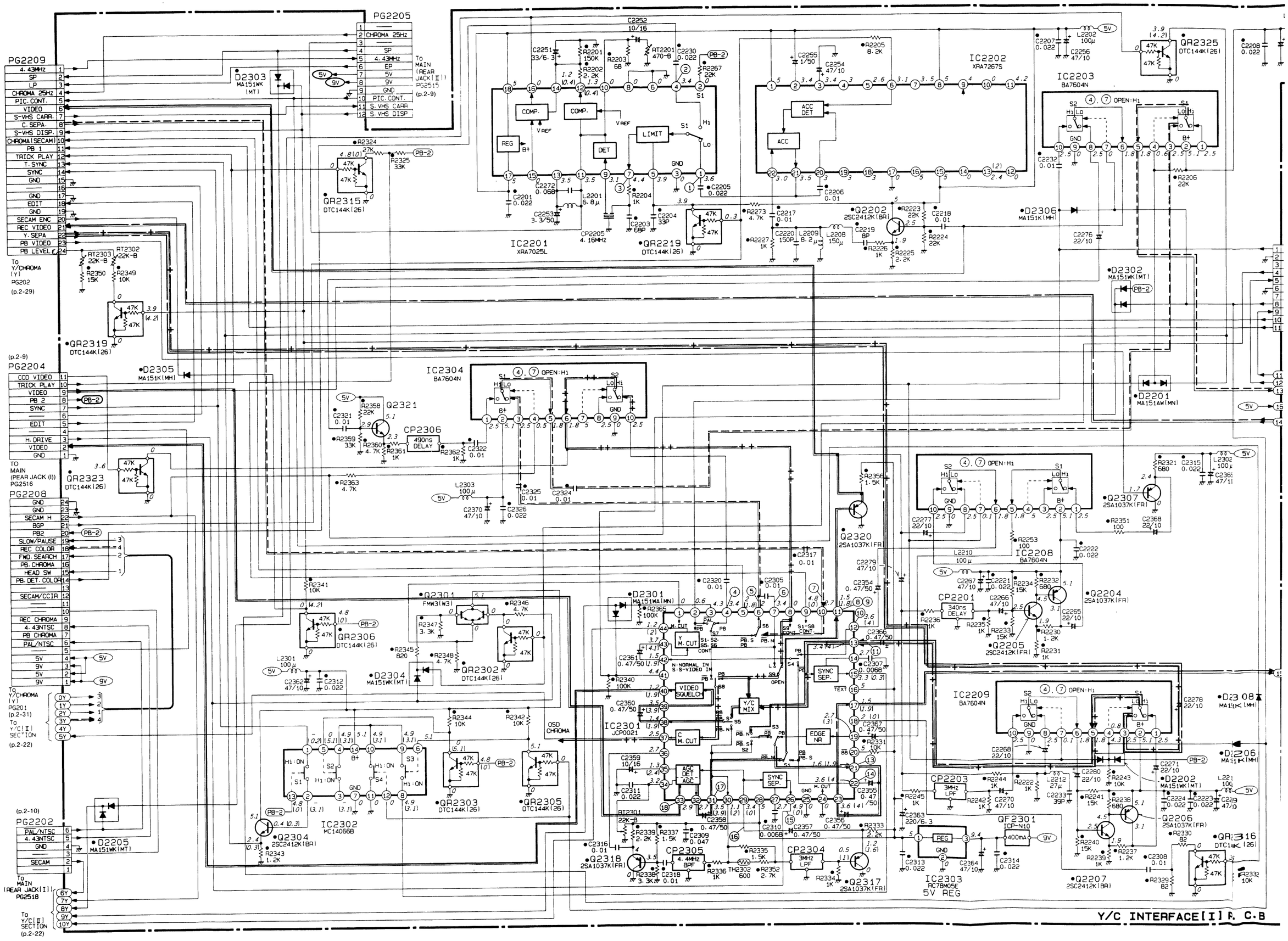


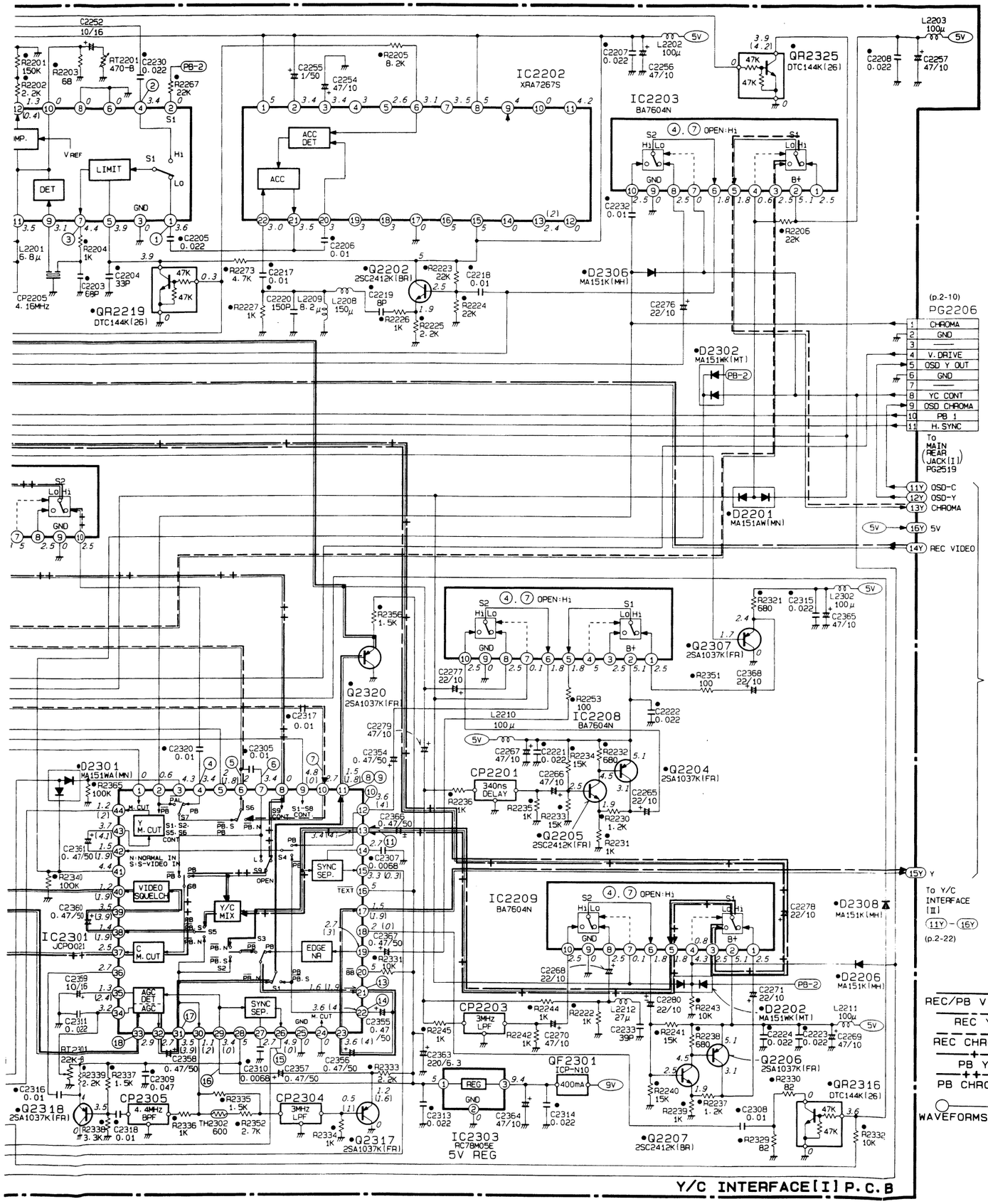
PRE-AMP/HEAD SW P.C.B



※ ONE VOLTAGE:PB OR REC MODE

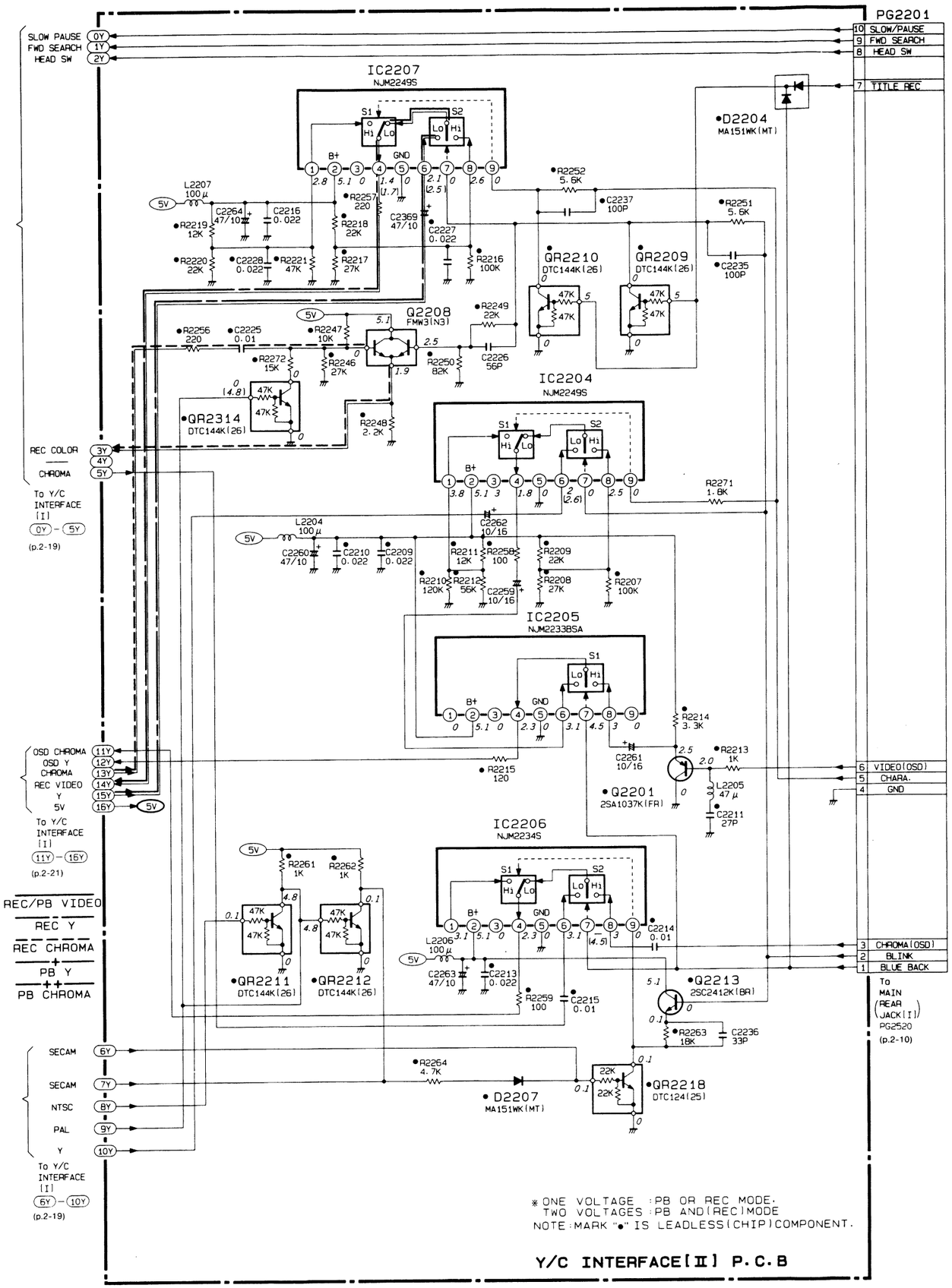
A2(IC1801)P.C.B


Y/C INTERFACE [I] P. C.B
PG2209
PG2205
PG2208
PG2202
PG2204
IC2201
XRA7025L
IC2202
XRA7267S
IC2203
BA7604N
IC2208
BA7604N
IC2209
BA7604N
IC2304
BA7604N
IC2301
JCP0021
IC2302
MC14066B
IC2303
RC78M05E
5V REG
QF2301
ICP-N10
CP2201
340ns DELAY
CP2203
3MHz LPF
CP2204
3MHz LPF
CP2205
4.4MHz BPF
CP2306
490ns DELAY
QR2315
QR2319
QR2323
QR2306
QR2302
QR2303
QR2305
QR2219
QR2325
Q2202
Q2204
Q2205
Q2206
Q2207
Q2302
Q2304
Q2307
Q2317
Q2318
Q2320
Q2321
D2201
D2202
D2205
D2206
D2208
D2301
D2302
D2303
D2304
D2305
D2306
REG
ACC DET
ACC
COMP.
DET
LIMIT
VREF
VIDEO SQUELCH
Y/C MIX
Y M. CUT
C M. CUT
EDGE NR
SYNC SEP.
AGC DET AGC
OSD CHROMA
To MAIN (REAR JACK [II]) PG2515 (p.2-9)
To Y/CHROMA (Y) PG202 (p.2-29)
To MAIN (REAR JACK [I]) PG2518
To Y/C [II] SECTION (p.2-22)
To Y/C [II] SECTION (p.2-31)
PB-2

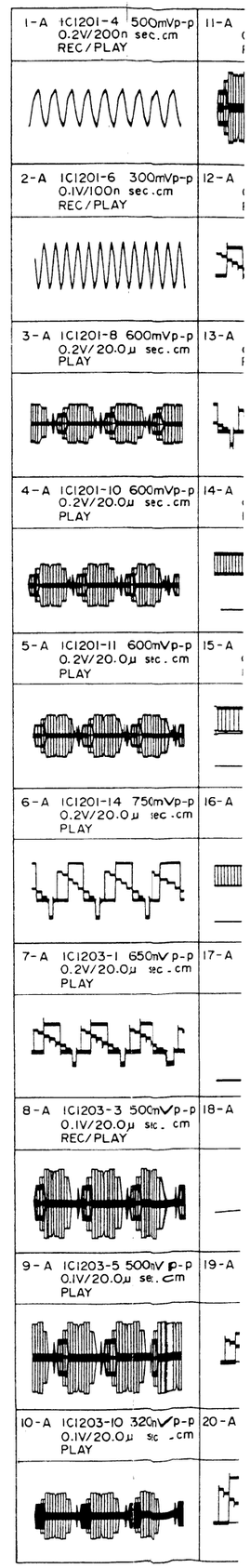


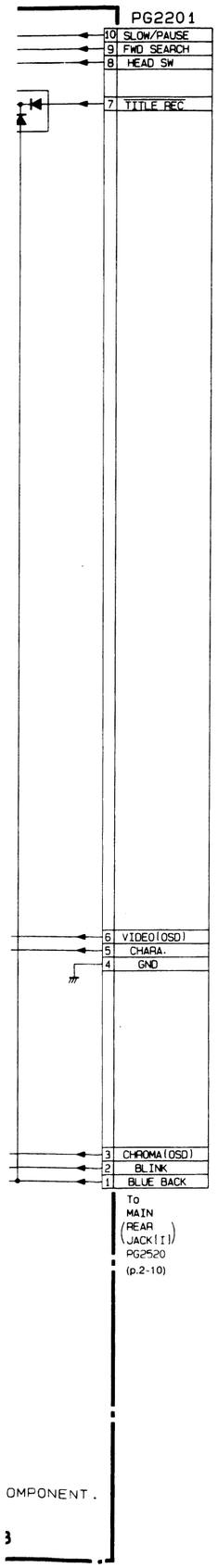
1-A IC2201-1 360mVp-p 0.1V/20.0μ sec.cm REC	11-A IC2301-13 1.0Vp-p 0.2V/20.0μ sec.cm PLAY
2-A IC2201-4 600mVp-p 0.2V/20.0μ sec.cm REC/PLAY	13-A IC2301-21 940mVp-p 0.2V/20.0μ sec.cm REC/PLAY
3-A IC2201-7 2.0Vp-p 0.5V/20.0μ sec.cm REC/PLAY	14-A IC2301-22 940mVp-p 0.2V/20.0μ sec.cm REC/PLAY
4-A IC2301-4 320mVp-p 0.1V/20.0μ sec.cm PLAY	15-A IC2301-26 5.0Vp-p 1V/20.0μ sec.cm REC/PLAY
5-A IC2301-6 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY	16-A IC2301-29 1Vp-p 0.2V/20.0μ sec.cm REC/PLAY
6-A IC2301-7 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY	17-A IC2301-31 1Vp-p 0.2V/20.0μ sec.cm REC
7-A IC2301-10 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY	18-A IC2301-33 1Vp-p 0.2V/20.0μ sec.cm REC
8-A IC2301-11 1.0Vp-p 0.2V/20.0μ sec.cm REC	
9-A IC2301-11 1.0Vp-p 0.2V/20.0μ sec.cm PLAY	
10-A IC2301-12 1.0Vp-p 0.2V/20.0μ sec.cm PLAY	

Y/C INTERFACE WAVEFORMS



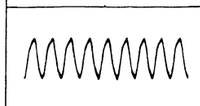
Y/CHROMA WAVEFORMS





Y/CHROMA WAVEFORMS

1-A IC1201-4 500mVp-p 0.2V/200n sec.cm REC/PLAY



2-A IC1201-6 300mVp-p 0.1V/100n sec.cm REC/PLAY

3-A IC1201-8 600mVp-p 0.2V/20.0μ sec.cm PLAY

4-A IC1201-10 600mVp-p 0.2V/20.0μ sec.cm PLAY

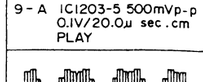
5-A IC1201-11 600mVp-p 0.2V/20.0μ sec.cm PLAY

6-A IC1201-14 750mVp-p 0.2V/20.0μ sec.cm PLAY

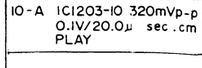
7-A IC1203-1 650mVp-p 0.2V/20.0μ sec.cm PLAY

8-A IC1203-3 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY

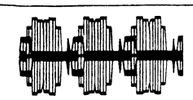
9-A IC1203-5 500mVp-p 0.1V/20.0μ sec.cm PLAY



10-A IC1203-10 320mVp-p 0.1V/20.0μ sec.cm PLAY

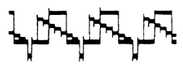


11-A IC1203-12 500mVp-p 0.1V/20.0μ sec.cm REC/PLAY

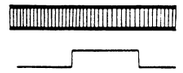


12-A IC1203-14 600mVp-p 0.2V/20.0μ sec.cm PLAY

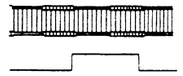
13-A IC1203-16 600mVp-p 0.2V/20.0μ sec.cm PLAY



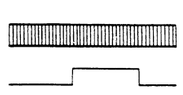
14-A IC201-1 400mVp-p 0.2V/5.0m sec.cm PLAY



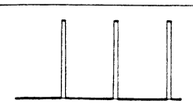
15-A IC201-2 1.0Vp-p 0.5V/5.0m sec.cm REC



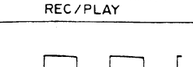
16-A IC201-5 1.0Vp-p 0.5V/5.0m sec.cm REC



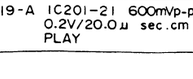
17-A IC201-13 4.9Vp-p 1V/20.0μ sec.cm REC/PLAY



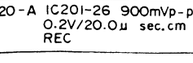
18-A IC201-14 4.6Vp-p 2V/10.0m sec.cm REC/PLAY



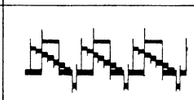
19-A IC201-21 600mVp-p 0.2V/20.0μ sec.cm PLAY



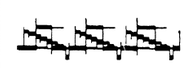
20-A IC201-26 900mVp-p 0.2V/20.0μ sec.cm REC



21-A IC201-34 800mVp-p 0.2V/20.0μ sec.cm PLAY



22-A IC201-36 500mVp-p 0.2V/20.0μ sec.cm PLAY



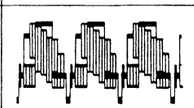
23-A IC202-1 600mVp-p 0.2V/20.0μ sec.cm REC

24-A IC202-1 600mVp-p 0.2V/20.0μ sec.cm PLAY

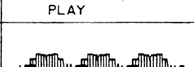
25-A IC202-3 1Vp-p 0.2V/20.0μ sec.cm REC

26-A IC202-3 1.0Vp-p 0.2V/20.0μ sec.cm PLAY

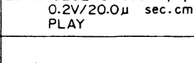
27-A IC202-5 1.0Vp-p 0.2V/20.0μ sec.cm REC



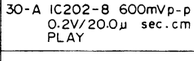
28-A IC202-5 600mVp-p 0.2V/20.0μ sec.cm PLAY



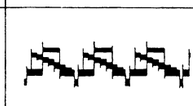
29-A IC202-6 600mVp-p 0.2V/20.0μ sec.cm PLAY



30-A IC202-8 600mVp-p 0.2V/20.0μ sec.cm PLAY



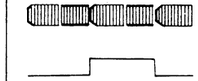
31-A IC203-5 1.4Vp-p 0.5V/20.0μ sec.cm PLAY



32-A IC203-8 1.4Vp-p 0.5V/20.0μ sec.cm PLAY

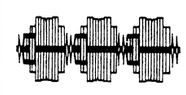
33-A IC351-1 600mVp-p 0.2V/20.0μ sec.cm REC

34-A IC351-2 500mVp-p 0.2V/5.0m sec.cm PLAY

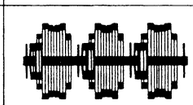


35-A IC351-5 400mVp-p 0.1V/20.0μ sec.cm PLAY

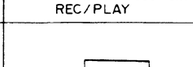
36-A IC351-6 430mVp-p 0.1V/20.0μ sec.cm REC



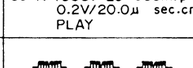
37-A IC351-11 500mVp-p 0.1V/20.0μ sec.cm REC



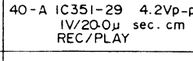
38-A IC351-15 4.5Vp-p 2V/5.0m sec.cm REC/PLAY



39-A IC351-25 900mVp-p 0.2V/20.0μ sec.cm PLAY



40-A IC351-29 4.2Vp-p 1V/20.0μ sec.cm REC/PLAY



41-A IC351-33 900mVp-p 0.2V/100n sec.cm REC/PLAY

42-A IC353-4 500mVp-p 0.1V/20.0μ sec.cm REC

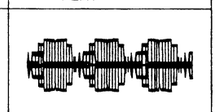
43-A IC353-4 500mVp-p 0.1V/20.0μ sec.cm PLAY

44-A IC353-6 470mVp-p 0.1V/20.0μ sec.cm REC

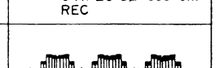
45-A IC353-6 470mVp-p 0.1V/20.0μ sec.cm PLAY

46-A IC353-8 330mVp-p 0.1V/20.0μ sec.cm REC

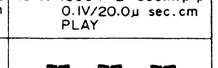
47-A IC353-8 330mVp-p 0.1V/20.0μ sec.cm PLAY



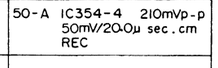
48-A IC354-2 330mVp-p 0.1V/20.0μ sec.cm REC



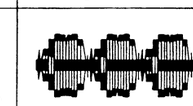
49-A IC354-2 330mVp-p 0.1V/20.0μ sec.cm PLAY

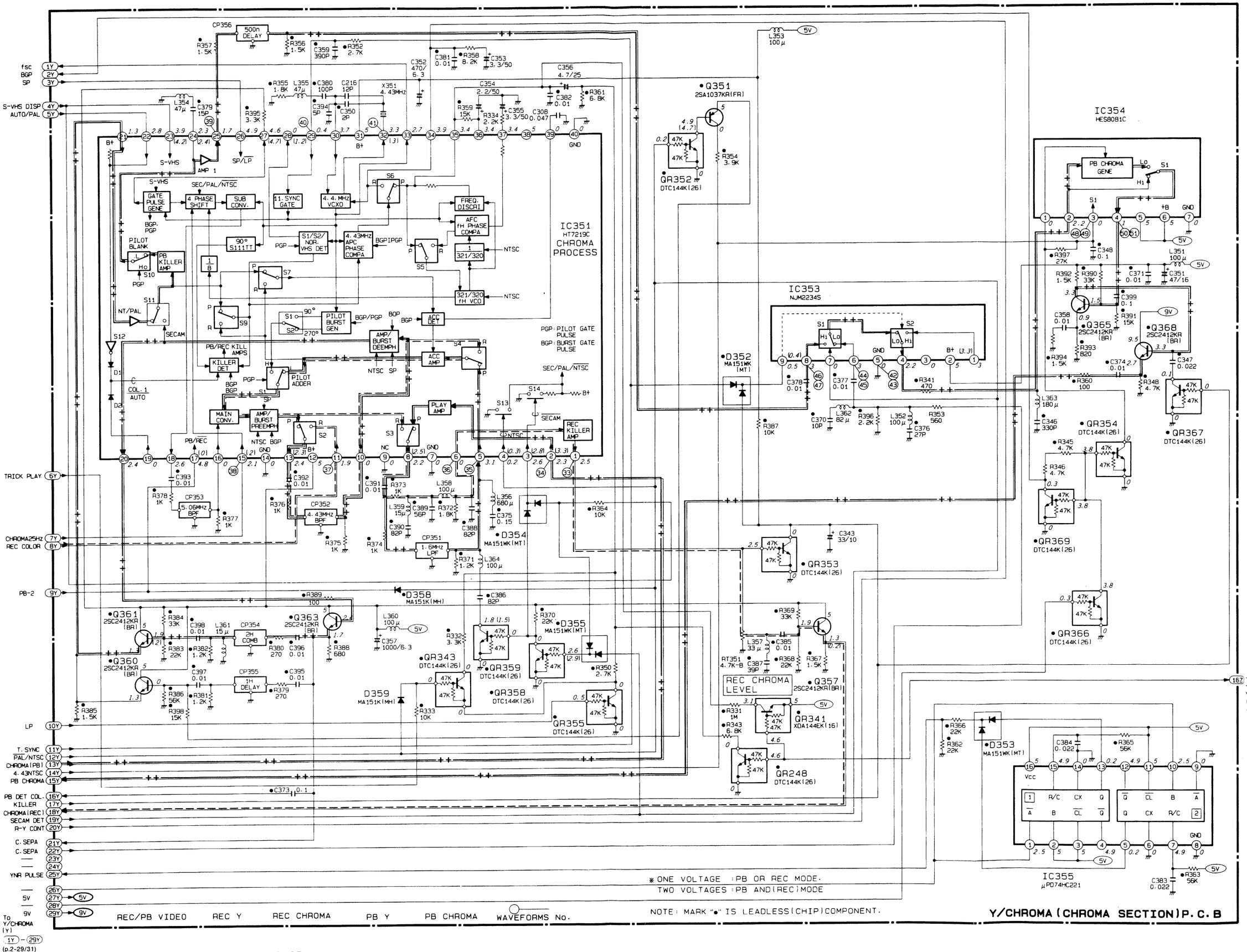


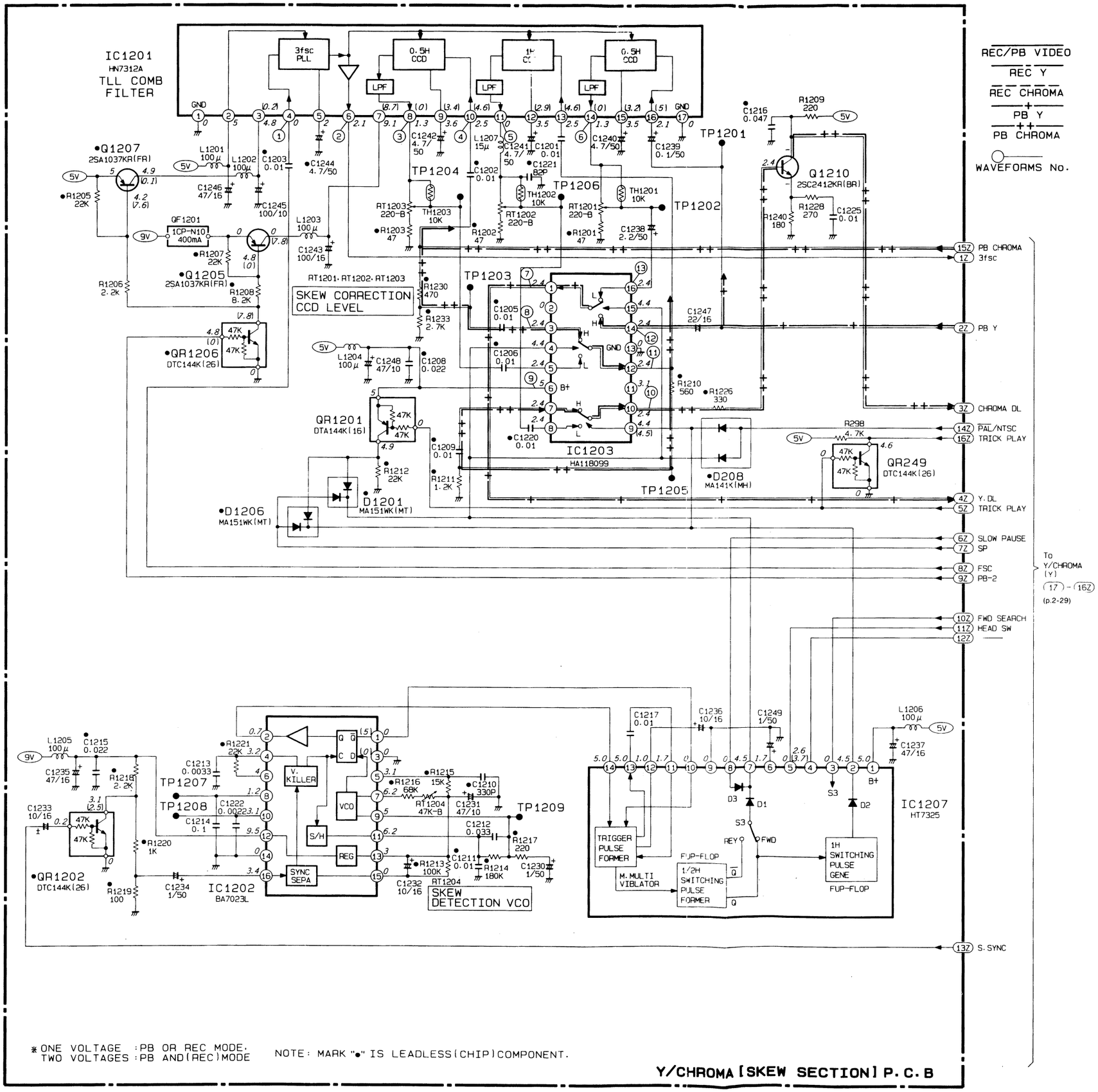
50-A IC354-4 210mVp-p 50mV/20.0μ sec.cm REC



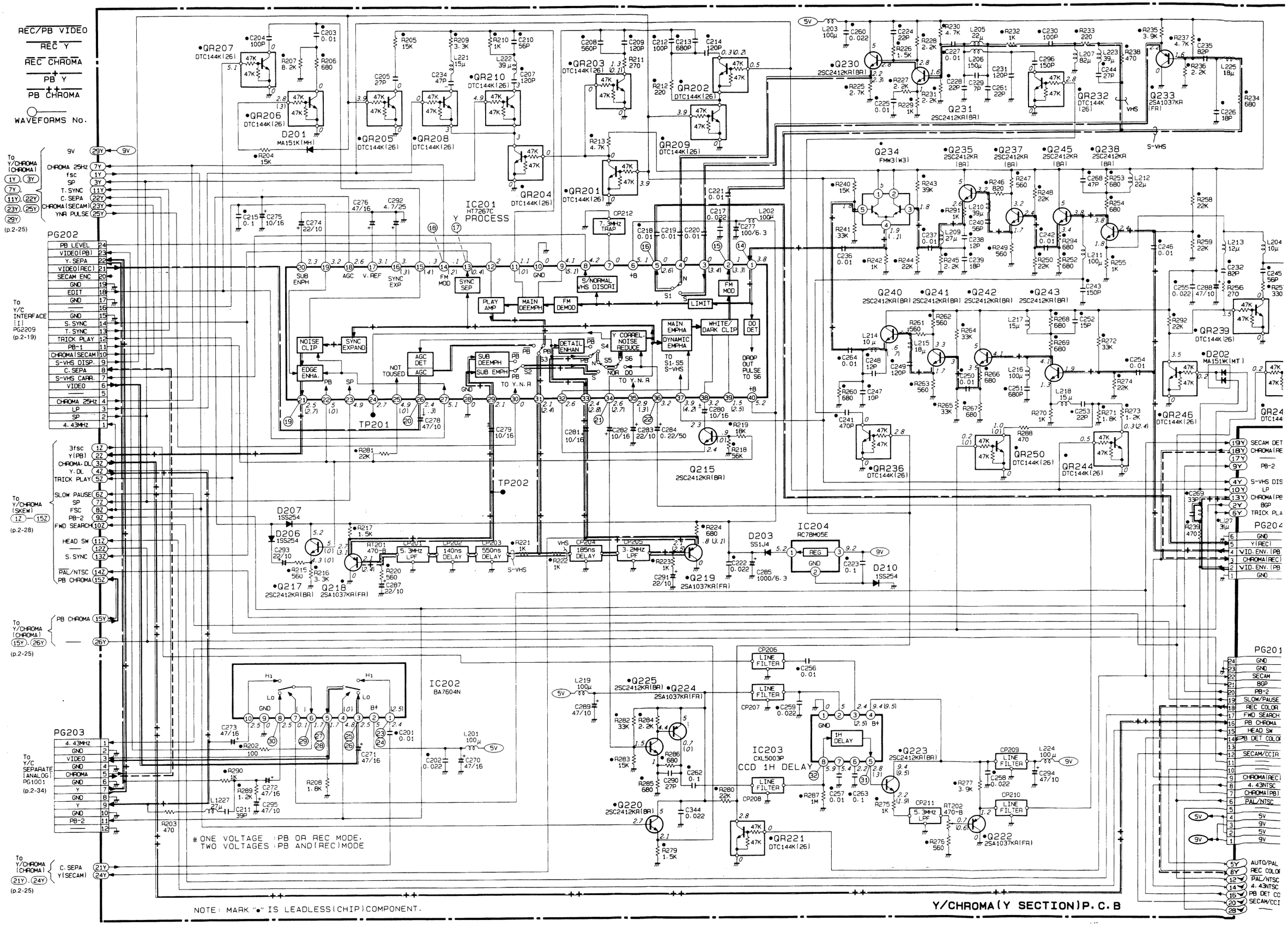
50-A IC354-4 210mVp-p 50mV/20.0μ sec.cm PLAY

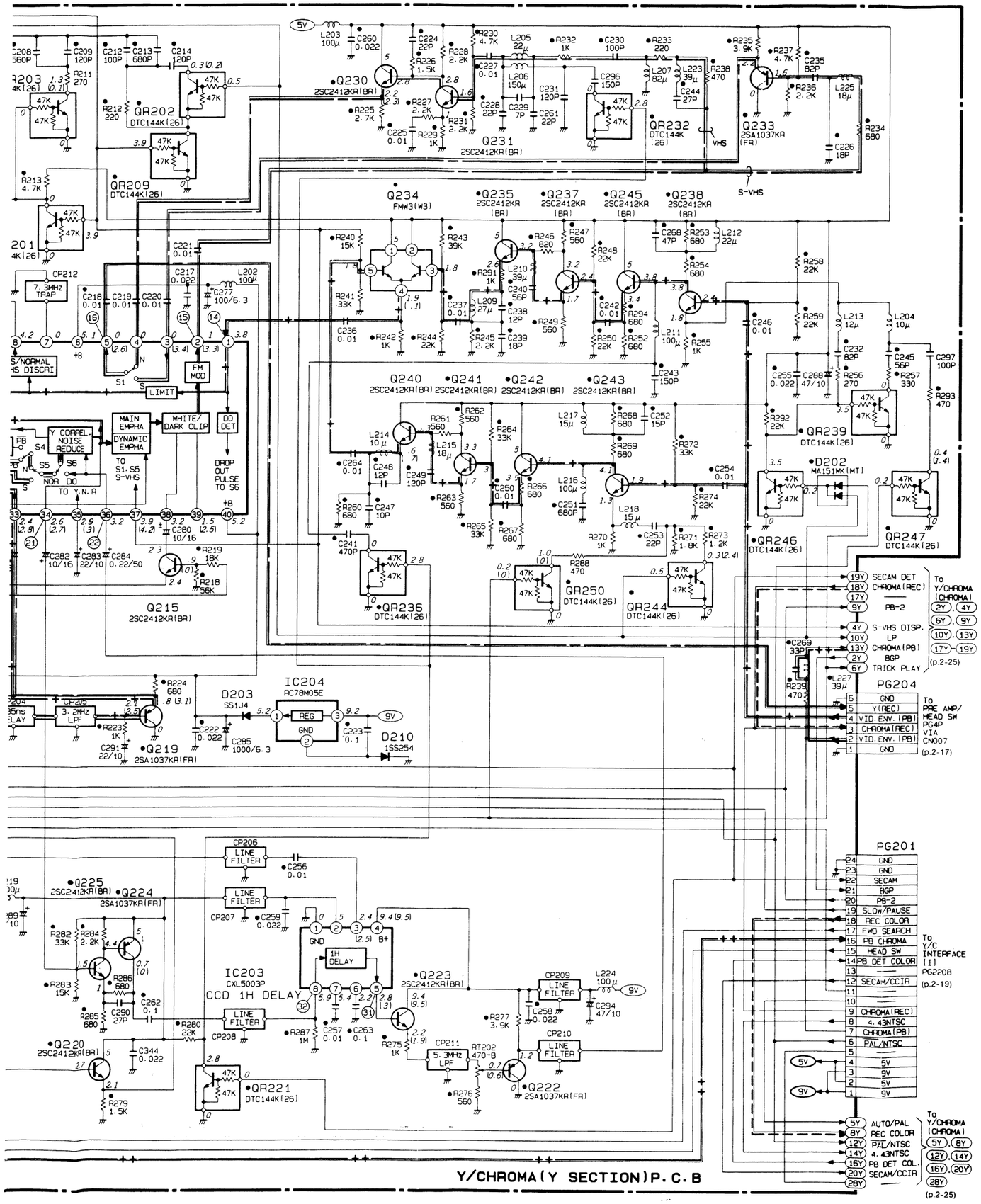


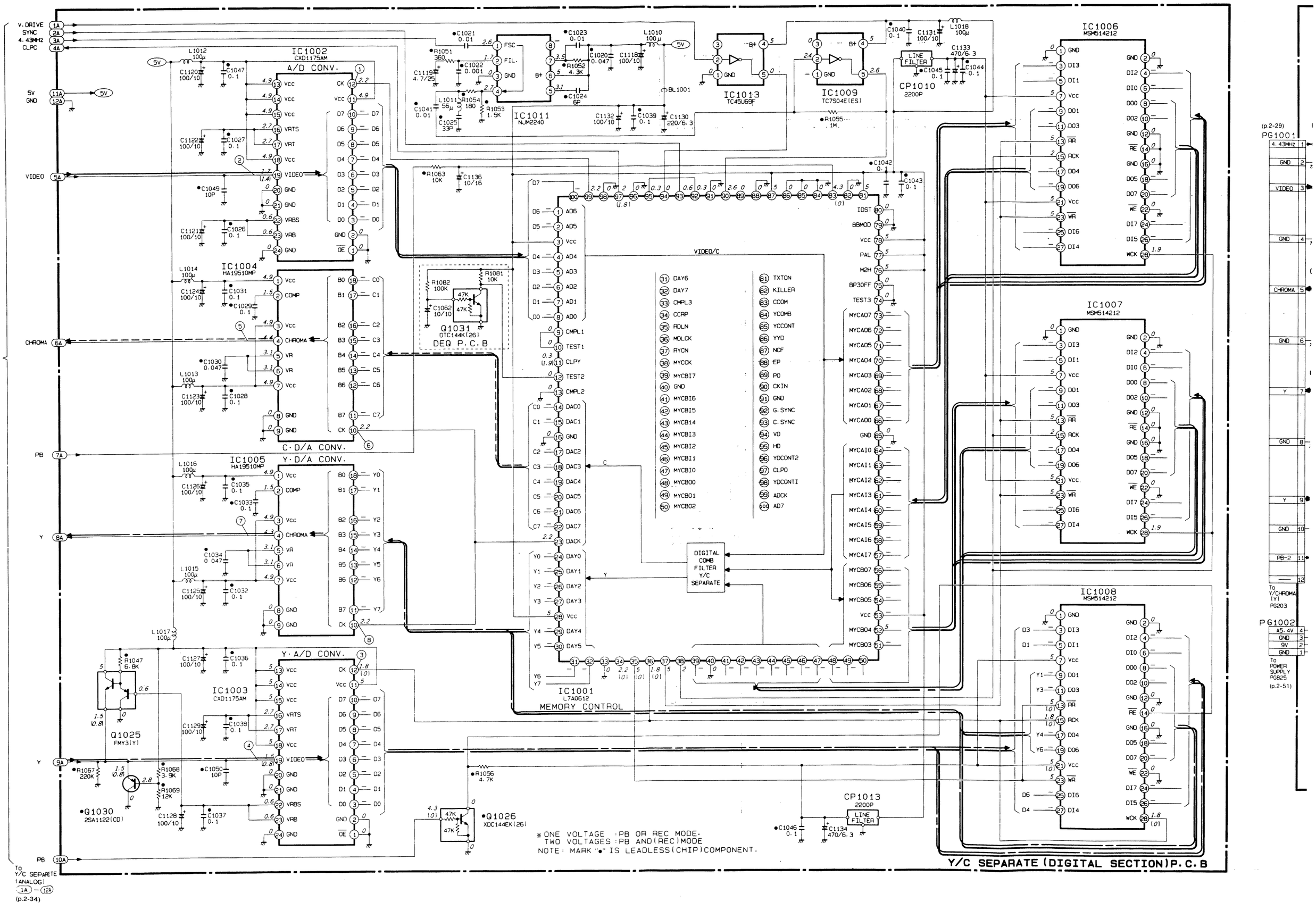

IC351
HT7219C
CHROMA
PROCESS
IC353
NJM2234S
IC354
HES8081C
IC355
μPD74HC221
Y/CHROMA (CHROMA SECTION) P.C.B
REC/PB VIDEO
REC Y
REC CHROMA
PB Y
PB CHROMA
WAVEFORMS No.
NOTE: MARK "•" IS LEADLESS (CHIP) COMPONENT.
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE
PGP: PILOT GATE PULSE
BGP: BURST GATE PULSE
REC CHROMA LEVEL
fsc
BGP
SP
S-VHS DISP
AUTO/PAL
TRICK PLAY
CHROMA25Hz
REC COLOR
PB-2
LP
T. SYNC
PAL/NTSC
CHROMA (PB)
4.43NTSC
PB CHROMA
PB DET COL.
KILLER
CHROMA (REC)
SECAM DET
R-Y CONT
C. SEPA
C. SEPA
YNR PULSE
5V
9V
To Y/CHROMA (Y) 1Y – 29Y (p.2-29/31)
To Y/CHROMA (SKEW) 16Z
Q351 2SA1037KR(FR)
QR352 DTC144K(26)
D352 MA151WK(MT)
D354 MA151WK(MT)
D358 MA151K(MH)
D359 MA151K(MH)
Q361 2SC2412KR(BA)
Q360 2SC2412KR(BA)
Q363 2SC2412KR(BA)
QR343 DTC144K(26)
QR359 DTC144K(26)
QR358 DTC144K(26)
QR355 DTC144K(26)
D355 MA151WK(MT)
QR353 DTC144K(26)
QR248 DTC144K(26)
Q357 2SC2412KR(BA)
QR341 XDA144EK(16)
D353 MA151WK(MT)
Q365 2SC2412KR(BA)
Q368 2SC2412KR(BA)
QR354 DTC144K(26)
QR367 DTC144K(26)
QR369 DTC144K(26)
QR366 DTC144K(26)

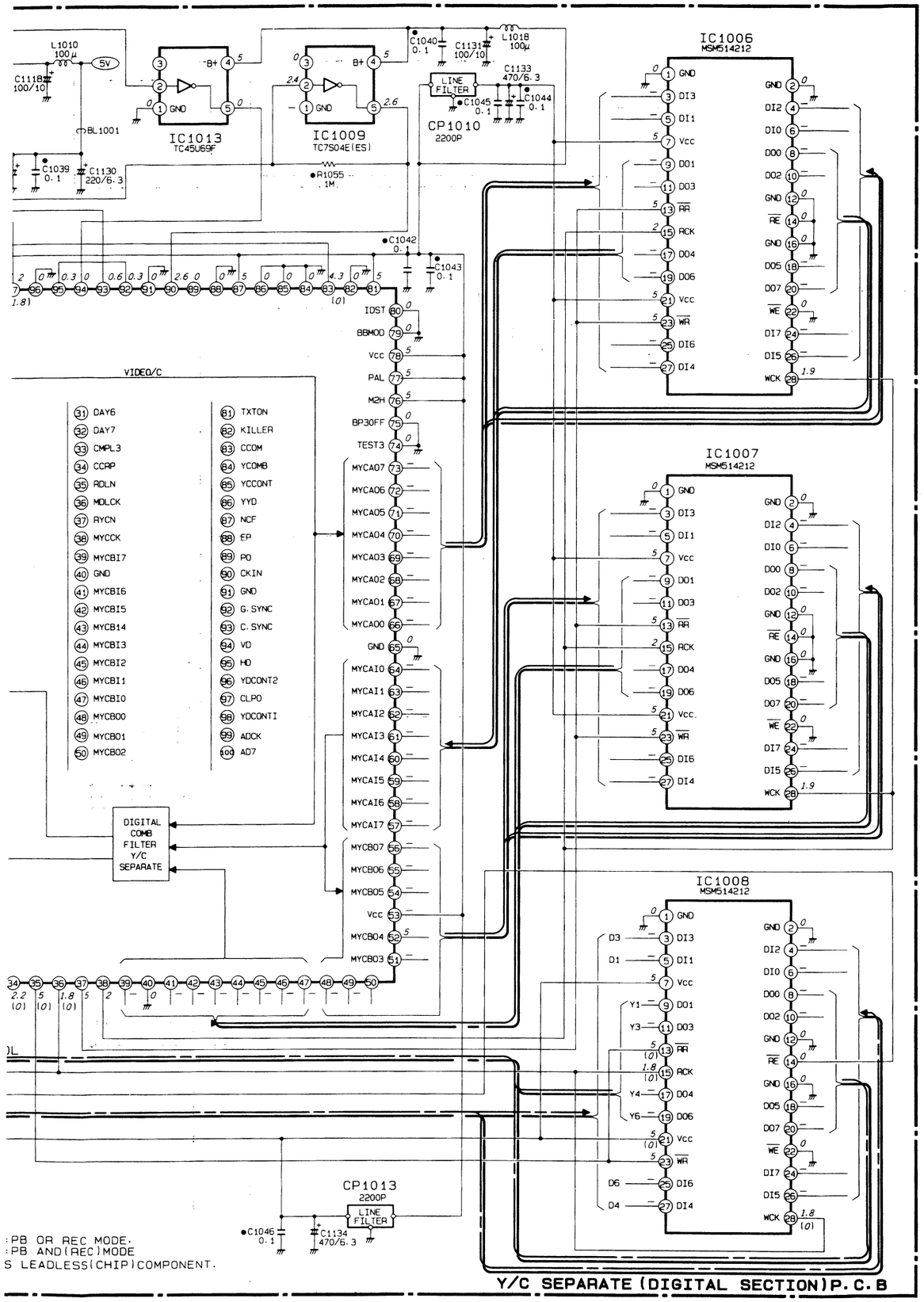

IC1201
HN7312A
TLL COMB FILTER
3fsc PLL
0.5H CCD
LPF
IC1203
HA118099
TP1201
TP1202
TP1203
TP1204
TP1205
TP1206
Q1207
2SA1037KR(FR)
Q1210
2SC2412KR(BR)
Q1205
2SA1037KR(FR)
QR1206
DTC144K(26)
QR1201
DTA144K(16)
QR1202
DTC144K(26)
QR249
DTC144K(26)
D1201
MA151WK(MT)
D1206
MA151WK(MT)
D208
MA141K(MH)
QF1201
1CP-N10 400mA
SKEW CORRECTION CCD LEVEL
RT1201. RT1202. RT1203
TP1207
TP1208
TP1209
IC1202
BA7023L
V. KILLER
VCO
S/H
REG
SYNC SEPA
SKEW DETECTION VCO
IC1207
HT7325
TRIGGER PULSE FORMER
M. MULTI VIBLATOR
F/F-FLOP
1/2H SWITCHING PULSE FORMER
1H SWITCHING PULSE GENE
F/F-FLOP
REC/PB VIDEO
REC Y
REC CHROMA
PB Y
PB CHROMA
WAVEFORMS No.
15Z PB CHROMA
1Z 3fsc
2Z PB Y
3Z CHROMA DL
14Z PAL/NTSC
16Z TRICK PLAY
4Z Y. DL
5Z TRICK PLAY
6Z SLOW PAUSE
7Z SP
8Z FSC
9Z PB-2
10Z FWD SEARCH
11Z HEAD SW
12Z
13Z S. SYNC
To Y/CHROMA (Y) (17) - (16Z) (p.2-29)
※ ONE VOLTAGE :PB OR REC MODE.
TWO VOLTAGES :PB AND(REC)MODE
NOTE: MARK "•" IS LEADLESS(CHIP)COMPONENT.
Y/CHROMA [SKEW SECTION] P.C.B

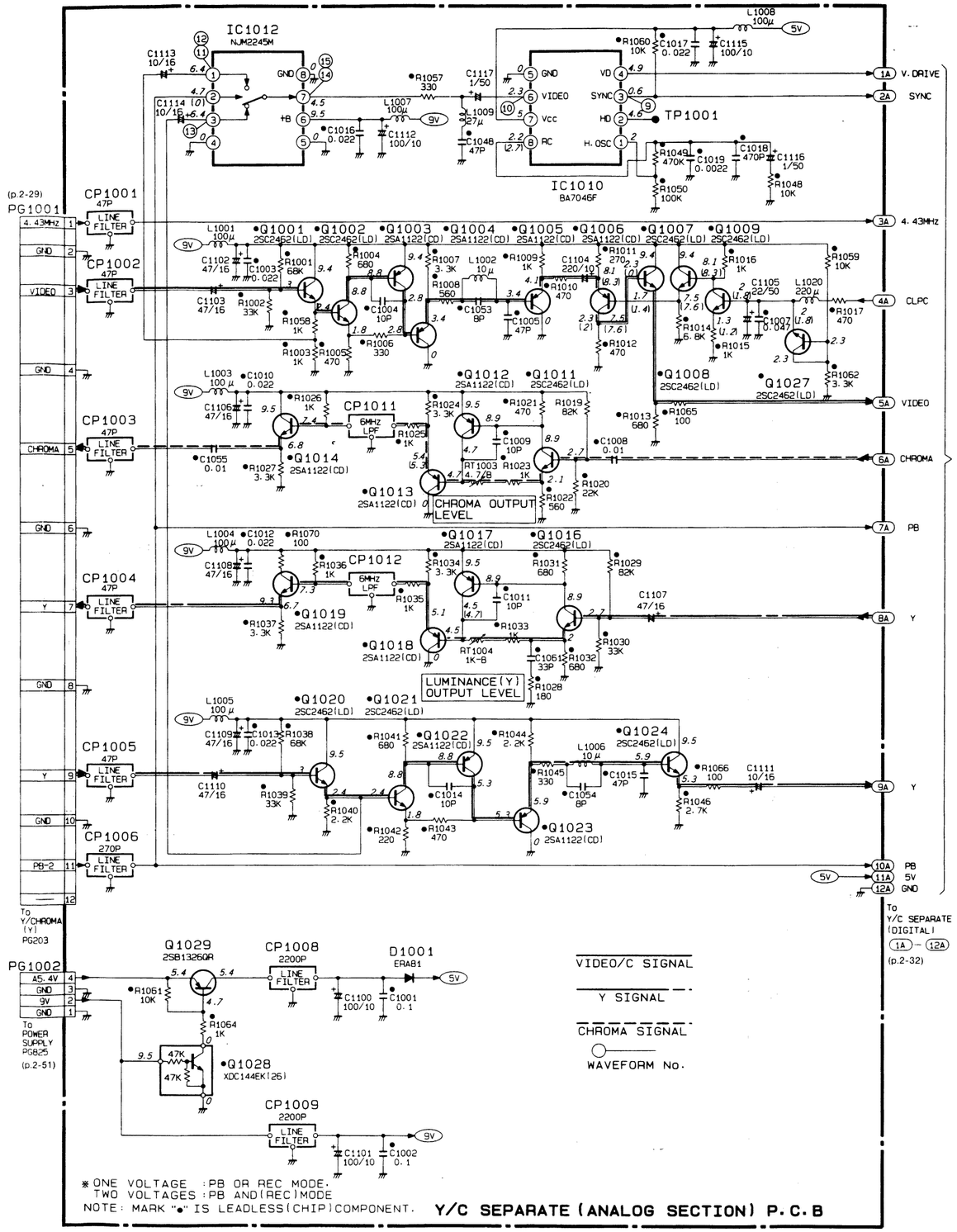
REC/PB VIDEO
REC Y
REC CHROMA
PB Y
PB CHROMA
WAVEFORMS No.

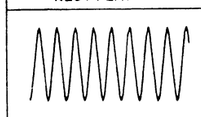
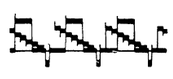
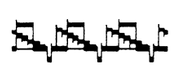
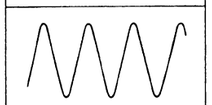
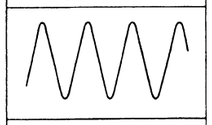
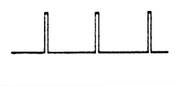
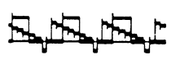



Q230 2SC2412KR(BA)
Q231 2SC2412KR(BA)
QR232 DTC144K(26)
Q233 2SA1037KR(FR)
QR202 DTC144K(26)
QR209 DTC144K(26)
Q234 FMW3(W3)
Q235 2SC2412KR(BA)
Q237 2SC2412KR(BA)
Q245 2SC2412KR(BA)
Q238 2SC2412KR(BA)
Q240 2SC2412KR(BA)
Q241 2SC2412KR(BA)
Q242 2SC2412KR(BA)
Q243 2SC2412KR(BA)
QR239 DTC144K(26)
D202 MA151WK(MT)
QR246 DTC144K(26)
QR247 DTC144K(26)
QR236 DTC144K(26)
QR250 DTC144K(26)
QR244 DTC144K(26)
Q215 2SC2412KR(BA)
IC204 RC78M05E
D203 SS1J4
D210 1SS254
Q219 2SA1037KR(FR)
IC203 CXL5003P CCD 1H DELAY
Q225 2SC2412KR(BA)
Q224 2SA1037KR(FR)
Q220 2SC2412KR(BA)
QR221 DTC144K(26)
Q223 2SC2412KR(BA)
Q222 2SA1037KR(FR)
CP212 7.3MHz TRAP
CP205 3.2MHz LPF
CP206 LINE FILTER
CP207 LINE FILTER
CP208 LINE FILTER
CP209 LINE FILTER
CP210 LINE FILTER
CP211 5.3MHz LPF
1H DELAY
Y CORREL. NOISE REDUCE
DYNAMIC EMPHA
MAIN EMPHA
WHITE/ DARK CLIP
DO DET
LIMIT
FM MOD
S/NORMAL
DROP OUT PULSE TO S6
TO S1, S5 S-VHS
TO Y.N.R
S-VHS
VHS
5V
9V
+8
+B
19Y SECAM DET
18Y CHROMA(REC)
17Y PB-2
9Y
4Y S-VHS DISP.
10Y LP
13Y CHROMA(PB)
2Y BGP
6Y TRICK PLAY
To Y/CHROMA (CHROMA) 2Y, 4Y 6Y, 9Y 10Y, 13Y 17Y, 19Y (p.2-25)
PG204
6 GND
5 Y(REC)
4 VID. ENV. (PB)
3 CHROMA(REC)
2 VID. ENV. (PB)
1 GND
To PRE AMP/ HEAD SW PG4P VIA CN007 (p.2-17)
PG201
24 GND
23 GND
22 SECAM
21 BGP
20 PB-2
19 SLOW/PAUSE
18 REC COLOR
17 FWD SEARCH
16 PB CHROMA
15 HEAD SW
14 PB DET COLOR
13
12 SECAM/CCIR
11
10
9 CHROMA(REC)
8 4.43NTSC
7 CHROMA(PB)
6 PAL/NTSC
5
4 5V
3 9V
2 5V
1 9V
To Y/C INTERFACE [I] PG220B (p.2-19)
5Y AUTO/PAL
8Y REC COLOR
12Y PAL/NTSC
14Y 4.43NTSC
16Y PB DET COL.
20Y SECAM/CCIR
28Y
To Y/CHROMA (CHROMA) 5Y, 8Y 12Y, 14Y 16Y, 20Y 28Y (p.2-25)
Y/CHROMA(Y SECTION)P.C.B

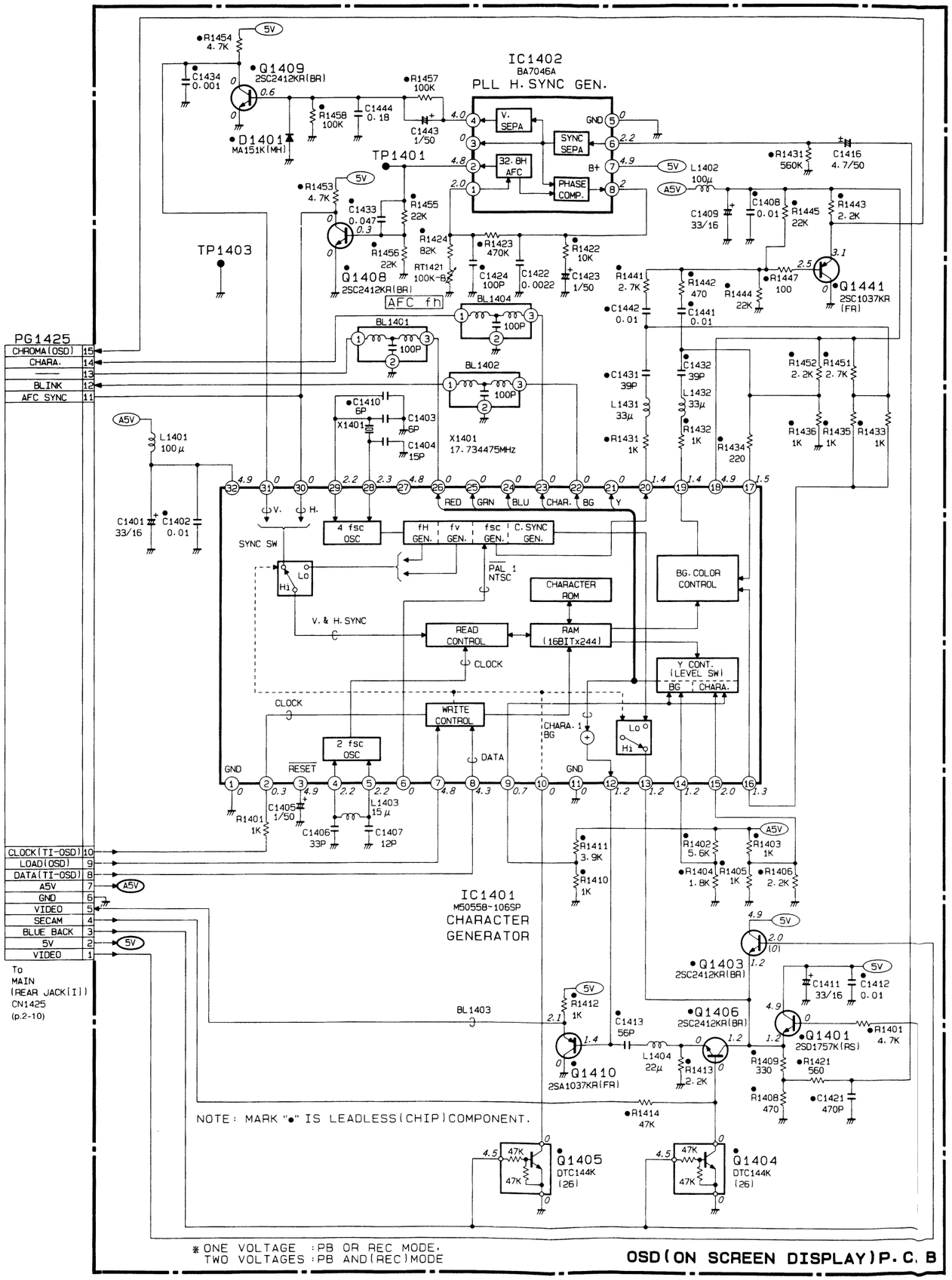

V. DRIVE 1A
SYNC 2A
4.43MHz 3A
CLPC 4A
5V 11A
GND 12A
VIDEO 5A
CHROMA 6A
PB 7A
Y 8A
Y 9A
PB 10A
IC1002 CXD1175AM A/D CONV.
IC1004 HA19510MP C·D/A CONV.
IC1005 HA19510MP Y·D/A CONV.
IC1003 CXD1175AM Y·A/D CONV.
IC1011 NJM2240
IC1013 TC45U69F
IC1009 TC7S04E(ES)
IC1006 MSM514212
IC1007 MSM514212
IC1008 MSM514212
IC1001 L7A0612 MEMORY CONTROL
VIDEO/C
DIGITAL COMB FILTER Y/C SEPARATE
Q1031 DTC144K(26) DEQ P.C.B
Q1025 FMY3(Y)
Q1030 2SA1122(CD)
Q1026 XDC144EK(26)
CP1010 2200P
CP1013 2200P
LINE FILTER
BL1001
R1063 10K
R1056 4.7K
R1055 1M
To Y/C SEPARETE (ANALOG) 1A – 12A (p.2-34)
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE
NOTE: MARK "●" IS LEADLESS (CHIP) COMPONENT.
Y/C SEPARATE (DIGITAL SECTION) P.C.B
(p.2-29) PG1001
4.43MHz
VIDEO
CHROMA
Y
PB-2
To Y/CHROMA (Y) PG203
PG1002
A5.4V
9V
To POWER SUPPLY PG825 (p.2-51)


IC1006
MSM514212
IC1007
MSM514212
IC1008
MSM514212
IC1009
TC7S04E(ES)
IC1013
TC45U69F
CP1010
2200P
CP1013
2200P
L1010 100μ 5V
L1018 100μ
C1040 0.1
C1131 100/10
C1133 470/6.3
C1045 0.1
C1044 0.1
C1118 100/10
C1039 0.1
C1130 220/6.3
BL1001
R1055 1M
C1042 0.1
C1043 0.1
IDST
BBMOD
Vcc
PAL
M2H
BP30FF
TEST3
MYCA07
MYCA06
MYCA05
MYCA04
MYCA03
MYCA02
MYCA01
MYCA00
MYCAI0
MYCAI1
MYCAI2
MYCAI3
MYCAI4
MYCAI5
MYCAI6
MYCAI7
MYCB07
MYCB06
MYCB05
MYCB04
MYCB03
VIDEO/C
31 DAY6
32 DAY7
33 CMPL3
34 CCRP
35 RDLN
36 MDLCK
37 RYCN
38 MYCCK
39 MYCBI7
40 GND
41 MYCBI6
42 MYCBI5
43 MYCB14
44 MYCBI3
45 MYCBI2
46 MYCBI1
47 MYCBI0
48 MYCB00
49 MYCB01
50 MYCB02
81 TXTON
82 KILLER
83 CCOM
84 YCOMB
85 YCCONT
86 YYD
87 NCF
88 EP
89 PO
90 CKIN
91 GND
92 G. SYNC
93 C. SYNC
94 VD
95 HD
96 YDCONT2
97 CLPO
98 YDCONTI
99 ADCK
100 AD7
DIGITAL COMB FILTER Y/C SEPARATE
C1046 0.1
C1134 470/6.3
: PB OR REC MODE.
: PB AND (REC) MODE
S LEADLESS (CHIP) COMPONENT.
Y/C SEPARATE (DIGITAL SECTION) P.C.B


IC1012
NJM2245M
IC1010
BA7046F
TP1001
L1008 100μ 5V
V. DRIVE
SYNC
4. 43MHz
CLPC
VIDEO
CHROMA
PB
Y
5V
GND
CP1001 47P
CP1002 47P
CP1003 47P
CP1004 47P
CP1005 47P
CP1006 270P
LINE FILTER
(p.2-29) PG1001
Q1001 2SC2462(LD)
Q1002 2SC2462(LD)
Q1003 2SA1122(CD)
Q1004 2SA1122(CD)
Q1005 2SA1122(CD)
Q1006 2SC2462(LD)
Q1007 2SC2462(LD)
Q1009 2SC2462(LD)
Q1008 2SC2462(LD)
Q1027 2SC2462(LD)
Q1012 2SA1122(CD)
Q1011 2SC2462(LD)
Q1013 2SA1122(CD)
Q1014 2SA1122(CD)
CP1011 6MHz LPF
CHROMA OUTPUT LEVEL
Q1017 2SA1122(CD)
Q1016 2SC2462(LD)
Q1019 2SA1122(CD)
Q1018 2SA1122(CD)
CP1012 6MHz LPF
LUMINANCE (Y) OUTPUT LEVEL
Q1020 2SC2462(LD)
Q1021 2SC2462(LD)
Q1022 2SA1122(CD)
Q1023 2SA1122(CD)
Q1024 2SC2462(LD)
To Y/CHROMA (Y) PG203
PG1002
AS. 4V
9V
To POWER SUPPLY PG825 (p.2-51)
Q1029 2SB1326QR
Q1028 XDC144EK(26)
CP1008 2200P
CP1009 2200P
D1001 ERA81
To Y/C SEPARATE (DIGITAL) 1A - 12A (p.2-32)
VIDEO/C SIGNAL
Y SIGNAL
CHROMA SIGNAL
WAVEFORM No.
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE
NOTE: MARK "•" IS LEADLESS (CHIP) COMPONENT.
Y/C SEPARATE (ANALOG SECTION) P.C.B

1-A IC1002-12 4.5Vp-p 1V/50.0n sec.cm REC / PLAY	11-A IC1012-1 460mVp-p 0.1V/20.0μ sec.cm REC
	
2-A IC1002-19 1.5Vp-p 0.5V/20.0μ sec.cm REC / PLAY	12-A IC1012-1 250mVp-p 0.1V/20.0μ sec.cm PLAY
3-A IC1003-12 3.9Vp-p 1V/20.0n sec.cm REC / PLAY	13-A IC1012-3 550mVp-p 0.2V/20.0u sec.cm PLAY
	
4-A IC1003-19 1.5Vp-p 0.5V/20.0μ sec.cm REC / PLAY	14 A IC1012-7 950mVp-p 0.2V/20.0u sec.cm REC
5-A IC1004-4 470mVp-p 0.1V/20.0μ sec.cm PLAY	15-A IC1012-7 1.2Vp-p 0.5V/20.0μ sec.cm PLAY
	
6-A IC1004-10 4.6Vp-p 1V/20.0n sec.cm PLAY	
	
7-A IC1005-4 700mVp-p 0.2V/20.0μ sec.cm PLAY	
8-A IC1005-10 4.7Vp-p 1V/20.0n sec.cm PLAY	
	
9-A IC1010-3 5.0Vp-p 2V/20.0μ sec.cm PLAY	
	
10-A IC1010-6 1.3Vp-p 0.5V/20.0μ sec.cm PLAY	
	

Y/C SEPERATE WAVEFORMS



IC4705
SAA5246
TELE TEXT DECODER

IC4704
HM6264ALP-12
MEMORY DISPLAY

IC4702
PC83C654P
VPT μP

IC4703
PC74HCT373P
ADDRESS LATCH

IC4701
HM6264ALP-12
SCRATCH PAD

IC4706
CXA1145P
PAL ENCODER

IC4709
LA7332
4.43MHz GEN.

IC4707
NJM2248S
TEXT SELECT SW

IC4708
LM393
TEXT HUE CORRECTOR

D4701
1SS254

D4702
1SR35-100AHJ

D4703
MA151K(MH)

Q4701
DTC144K(26)

Q4702
2SB709A(R)

Q4703
2SB709A(R)

Q4704
2SC2412K(BR)

Q4705
2SB709A(R)

Q4706
2SC2412K(BR)

Q4707
2SC2412K(BR)

CP4701
4.43MHz BPF

CP4702
200n DELAY

PG4701
1 CLOCK(TI-VPS)
2 DATA(VPS-TI)
3 A5.6V
4 GND
5 RESET
6 GND
7 ——
8 R-Y CONT.

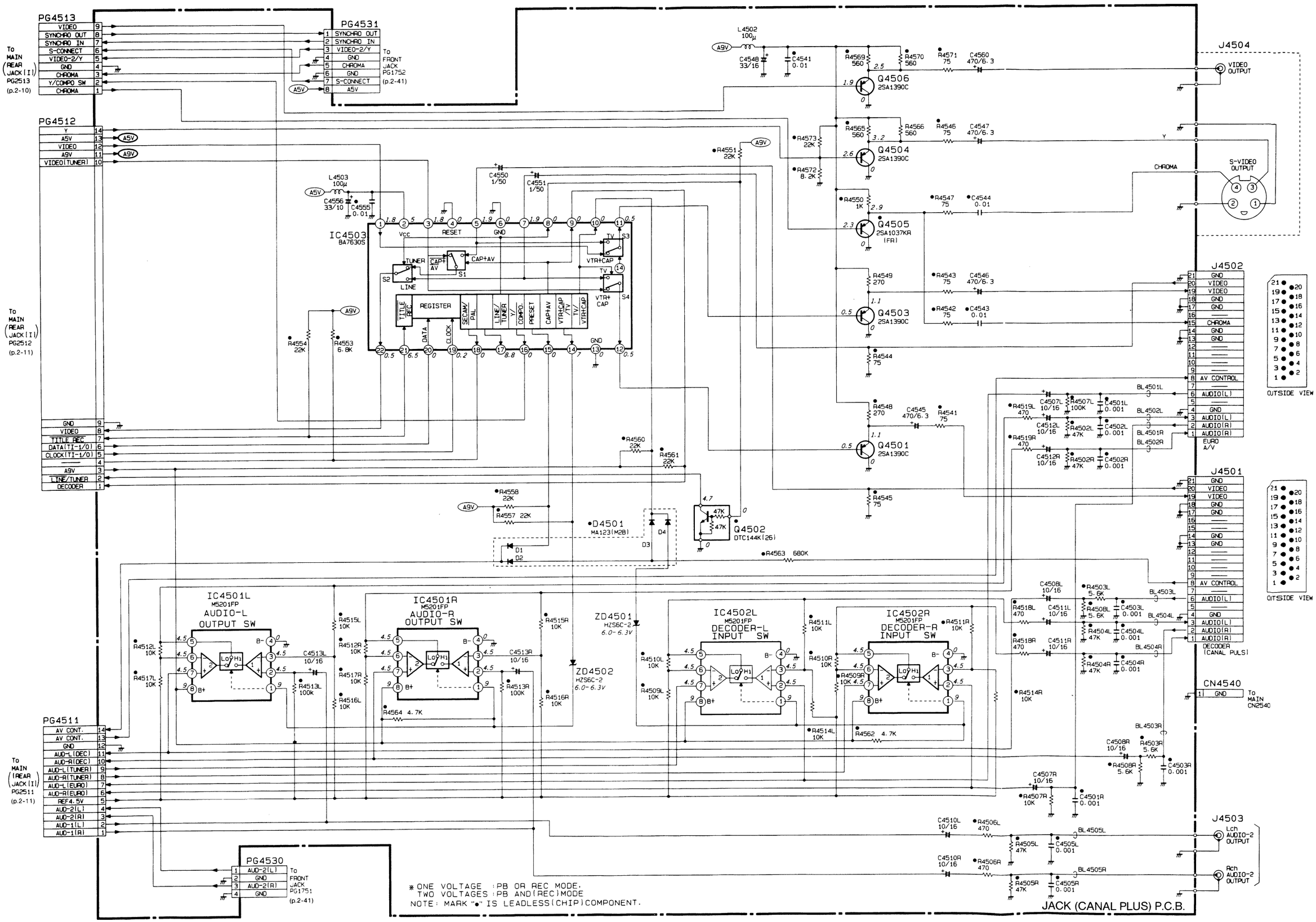
To MAIN (REAR JACK(I)) PG2526 (p.2-10)

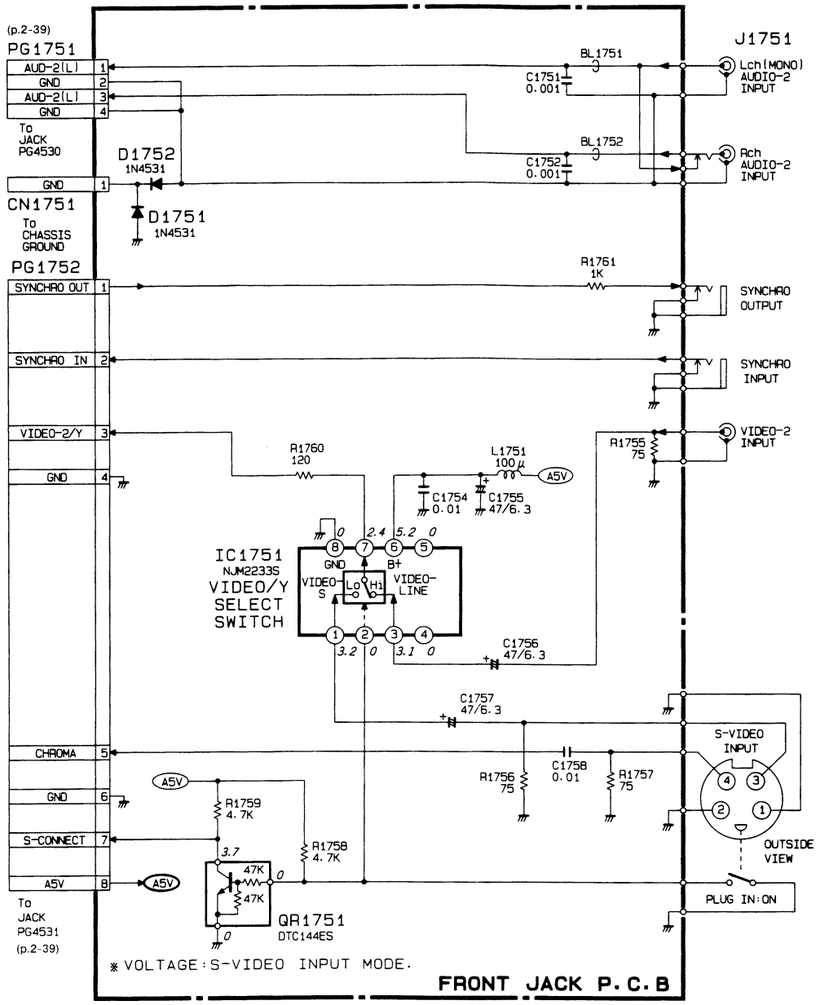
PG4702
6 VIDEO
5 GND
4 VIDEO
3 GND
2 SYNC
1 GND

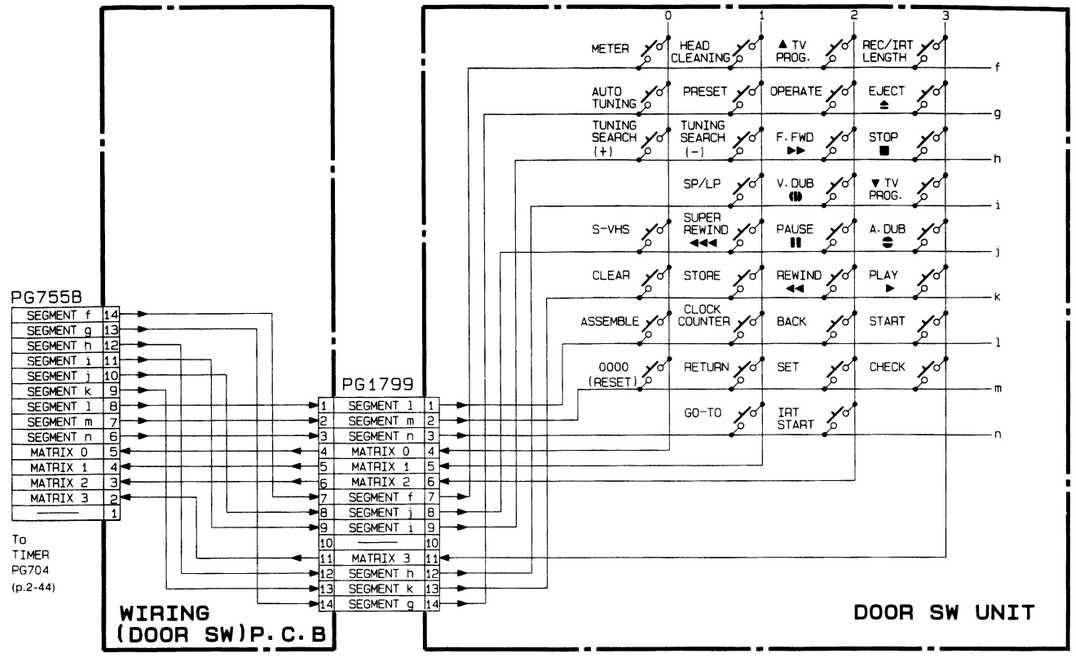
To MAIN (REAR JACK(I)) PG2527 (p.2-10)

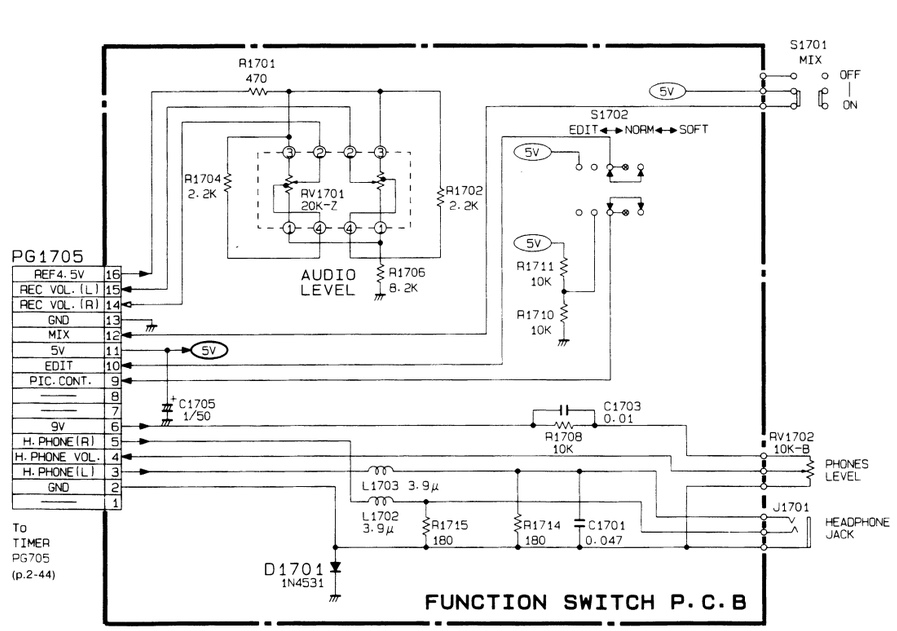
* MARK "●" IS LEADLESS(CHIP)COMPONENT
ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND(REC)MODE

VPT P.C.B.


PG4513
VIDEO 9
SYNCHRO OUT 8
SYNCHRO IN 7
S-CONNECT 6
VIDEO-2/Y 5
GND 4
CHROMA 3
Y/COMPO SW 2
CHROMA 1
To MAIN REAR JACK(I) PG2513 (p.2-10)
PG4531
1 SYNCHRO OUT
2 SYNCHRO IN
3 VIDEO-2/Y
4 GND
5 CHROMA
6 GND
7 S-CONNECT
8 A5V
To FRONT JACK PG1752 (p.2-41)
PG4512
Y 14
A5V 13
VIDEO 12
A9V 11
VIDEO(TUNER) 10
To MAIN REAR JACK(I) PG2512 (p.2-11)
GND 9
VIDEO 8
TITLE REC 7
DATA(TI-1/0) 6
CLOCK(TI-1/0) 5
4
A9V 3
LINE/TUNER 2
DECODER 1
L4502 100μ
C4548 33/16
C4541 0.01
R4569 560
R4570 560
R4571 75
C4560 470/6.3
Q4506 2SA1390C
R4565 560
R4566 560
R4546 75
C4547 470/6.3
Q4504 2SA1390C
R4573 22K
R4572 8.2K
R4551 22K
R4550 1K
R4547 75
C4544 0.01
Q4505 2SA1037KR (FR)
R4549 270
R4543 75
C4546 470/6.3
Q4503 2SA1390C
R4542 75
C4543 0.01
R4544 75
R4548 270
C4545 470/6.3
R4541 75
Q4501 2SA1390C
R4545 75
J4504
VIDEO OUTPUT
Y
CHROMA
S-VIDEO OUTPUT
J4502
21 GND
20 VIDEO
19 VIDEO
18 GND
17 GND
16 ——
15 CHROMA
14 GND
13 GND
12 ——
11 ——
10 ——
9 ——
8 AV CONTROL
7 ——
6 AUDIO(L)
5 ——
4 GND
3 AUDIO(L)
2 AUDIO(R)
1 AUDIO(R)
EURO A/V
OUTSIDE VIEW
BL4501L
BL4502L
BL4501R
BL4502R
C4507L 10/16
R4507L 100K
C4501L 0.001
R4519L 470
C4512L 10/16
R4502L 47K
C4502L 0.001
R4519R 470
C4512R 10/16
R4502R 47K
C4502R 0.001
L4503 100μ
C4556 33/10
C4555 0.01
C4550 1/50
C4551 1/50
IC4503 BA7630S
Vcc
RESET
GND
TV
S3
TUNER
CAP+AV
S1
VTR+CAP
S2
LINE
S4
REGISTER
TITLE REC.
SECAM/PAL
LINE/TUNER
Y/COMPO.
PRESET
CAP+AV
VTR+CAP/TV
TV/VTR+CAP
DATA
CLOCK
R4554 22K
R4553 6.8K
R4560 22K
R4561 22K
R4558 22K
R4557 22K
•D4501 MA123(M2B)
D1
D2
D3
D4
Q4502 DTC144K(26)
R4563 680K
J4501
21 GND
20 VIDEO
19 VIDEO
18 GND
17 GND
16 ——
15 ——
14 GND
13 GND
12 ——
11 ——
10 ——
9 ——
8 AV CONTROL
7 ——
6 AUDIO(L)
5 ——
4 GND
3 AUDIO(L)
2 AUDIO(R)
1 AUDIO(R)
DECODER (CANAL PULS)
OUTSIDE VIEW
C4508L 10/16
R4503L 5.6K
BL4503L
R4518L 470
C4511L 10/16
R4508L 5.6K
C4503L 0.001
BL4504L
R4504L 47K
C4504L 0.001
R4518R 470
C4511R 10/16
R4504R 47K
C4504R 0.001
BL4504R
CN4540
1 GND
To MAIN CN2540
IC4501L M5201FP AUDIO-L OUTPUT SW
IC4501R M5201FP AUDIO-R OUTPUT SW
IC4502L M5201FP DECODER-L INPUT SW
IC4502R M5201FP DECODER-R INPUT SW
R4512L 10K
R4517L 10K
C4513L 10/16
R4513L 100K
R4515L 10K
R4512R 10K
R4517R 10K
R4516L 10K
C4513R 10/16
R4513R 100K
R4515R 10K
R4516R 10K
R4564 4.7K
ZD4501 HZS6C-2 6.0-6.3V
ZD4502 HZS6C-2 6.0-6.3V
R4510L 10K
R4509L 10K
R4511L 10K
R4510R 10K
R4509R 10K
R4511R 10K
R4514L 10K
R4514R 10K
R4562 4.7K
C4508R 10/16
R4503R 5.6K
BL4503R
R4508R 5.6K
C4503R 0.001
C4507R 10/16
R4507R 10K
C4501R 0.001
PG4511
AV CONT. 14
AV CONT. 13
GND 12
AUD-L(DEC) 11
AUD-R(DEC) 10
AUD-L(TUNER) 9
AUD-R(TUNER) 8
AUD-L(EURO) 7
AUD-R(EURO) 6
REF4.5V 5
AUD-2(L) 4
AUD-2(R) 3
AUD-1(L) 2
AUD-1(R) 1
To MAIN (REAR JACK(II) PG2511 (p.2-11)
PG4530
1 AUD-2(L)
2 GND
3 AUD-2(R)
4 GND
To FRONT JACK PG1751 (p.2-41)
C4510L 10/16
R4506L 470
R4505L 47K
C4505L 0.001
BL4505L
C4510R 10/16
R4506R 470
R4505R 47K
C4505R 0.001
BL4505R
J4503
Lch AUDIO-2 OUTPUT
Rch AUDIO-2 OUTPUT
* ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND(REC)MODE
NOTE: MARK "•" IS LEADLESS(CHIP)COMPONENT.
JACK (CANAL PLUS) P.C.B.


(p.2-39)
PG1751
AUD-2(L) 1
GND 2
AUD-2(L) 3
GND 4
To JACK PG4530
GND 1
CN1751
To CHASSIS GROUND
D1752 1N4531
D1751 1N4531
J1751
BL1751
C1751 0.001
Lch(MONO) AUDIO-2 INPUT
BL1752
C1752 0.001
Rch AUDIO-2 INPUT
PG1752
SYNCHRO OUT 1
R1761 1K
SYNCHRO OUTPUT
SYNCHRO IN 2
SYNCHRO INPUT
VIDEO-2/Y 3
R1755 75
VIDEO-2 INPUT
GND 4
R1760 120
L1751 100μ
A5V
C1754 0.01
C1755 47/6.3
IC1751
NJM2233S
VIDEO/Y SELECT SWITCH
GND
B+
VIDEO-S
Lo Hi
VIDEO-LINE
0 2.4 5.2 0
3.2 0 3.1 0
C1756 47/6.3
C1757 47/6.3
CHROMA 5
S-VIDEO INPUT
R1756 75
C1758 0.01
R1757 75
GND 6
A5V
R1759 4.7K
S-CONNECT 7
3.7
47K
47K
0
R1758 4.7K
A5V 8
A5V
QR1751
DTC144ES
OUTSIDE VIEW
PLUG IN:ON
To JACK PG4531 (p.2-39)
※ VOLTAGE:S-VIDEO INPUT MODE.
FRONT JACK P.C.B


PG755B
SEGMENT f 14
SEGMENT g 13
SEGMENT h 12
SEGMENT i 11
SEGMENT j 10
SEGMENT k 9
SEGMENT l 8
SEGMENT m 7
SEGMENT n 6
MATRIX 0 5
MATRIX 1 4
MATRIX 2 3
MATRIX 3 2
1
To TIMER PG704 (p.2-44)
PG1799
1 SEGMENT l 1
2 SEGMENT m 2
3 SEGMENT n 3
4 MATRIX 0 4
5 MATRIX 1 5
6 MATRIX 2 6
7 SEGMENT f 7
8 SEGMENT j 8
9 SEGMENT i 9
10 10
11 MATRIX 3 11
12 SEGMENT h 12
13 SEGMENT k 13
14 SEGMENT g 14
WIRING (DOOR SW)P.C.B
0 1 2 3
METER
HEAD CLEANING
▲TV PROG.
REC/IRT LENGTH
f
AUTO TUNING
PRESET
OPERATE
EJECT
g
TUNING SEARCH (+)
TUNING SEARCH (-)
F.FWD
STOP
h
SP/LP
V.DUB
▼TV PROG.
i
S-VHS
SUPER REWIND
PAUSE
A.DUB
j
CLEAR
STORE
REWIND
PLAY
k
ASSEMBLE
CLOCK COUNTER
BACK
START
l
0000 (RESET)
RETURN
SET
CHECK
m
GO-TO
IRT START
n
DOOR SW UNIT


PG1705
REF4.5V 16
REC VOL.(L) 15
REC VOL.(R) 14
GND 13
MIX 12
5V 11
EDIT 10
PIC.CONT. 9
8
7
9V 6
H.PHONE(R) 5
H.PHONE VOL. 4
H.PHONE(L) 3
GND 2
1
To TIMER PG705 (p.2-44)
R1701 470
S1701 MIX
OFF
ON
5V
S1702
EDIT NORM SOFT
R1704 2.2K
RV1701 20K-Z
R1702 2.2K
AUDIO LEVEL
R1706 8.2K
R1711 10K
R1710 10K
C1705 1/50
C1703 0.01
R1708 10K
RV1702 10K-B
PHONES LEVEL
L1703 3.9μ
L1702 3.9μ
R1715 180
R1714 180
C1701 0.047
J1701
HEADPHONE JACK
D1701 1N4531
FUNCTION SWITCH P.C.B

TIMER P.C.B

IC701 (TIμP)
M38102M5-108SP
TIMER μP

IC702
XRM9021
EA-ROM

IC703
S8053ALB
RESET

IC704
M50761-301P
CORD
CONV.

IC705
PST520F
RESET

IR701
PUIU5
PULSE SHAPE

DG701
BG-780GK
MULTI
DISPLAY

Q702
2SC1740D

Q704
2SC1740

QR706
DTC144ES

QR707
DTC144ES

ZD701
HZS6B-2
5.6-5.9V

ZD708
HZS6C-2
6-6.3V

D701-D709
1N4531x9

D718-D721
1N4531x4

D716
1N4531

D717
1N4531

D714
1N4531

D715
1N4531

D726
1N4531

D727
1N4531

D728
1N4531

D713
1N4531

D722
SLH-34MC5
TAPE IN
INDI.

BZ701
BUZZER

S701
RESET

S702
EJECT

X703
800KHz

X701
4MHz

X702
32.768KHz

L701
100μ

PG720
SOFT LAND. 1
REMOTE 1 2
REMOTE 2 3
A5V 4
AC CLOCK 5
A-30V 6
GND 7
HEAT. (DISP.) 8
HEAT. (DISP.) 9
Hi-Fi INDI. 10
BUSY 11
S-CURVE 12
ENABLE (PLL) 13
ENABLE (OSD) 14
DATA (TI-I/O) 15
CLOCK (TI-X) 16
DATA (TI-X) 17
CLOCK (TI-S) 18
DATA (TI-S) 19
DATA (S-TI) 20
DATA (VPS-TI) 21
CLOCK (TI-VPS) 22

To MAIN REAR JACK (I) PG620 (p.2-10)

PG721
SEC/MESEC 1
BILINGUAL 2
ENABLE (S-TI) 3
STEREO 4
S. SYNC 5
REF 4.5V 6
REC VOL. (L) 7
REC VOL. (R) 8
GND 9
MIX 10
5V 11
EDIT 12
PIX CONT. 13
9.5V 14
H. PHONE (R) 15
H. PHONE VOL. 16
H. PHONE (L) 17
GND 18

To MAIN REAR JACK (I) PG621 (p.2-10)

PG704 (p.2-42)
SEGMENT f 14
SEGMENT g 13
SEGMENT h 12
SEGMENT i 11
SEGMENT j 10
SEGMENT k 9
SEGMENT l 8
SEGMENT m 7
SEGMENT n 6
MATRIX 0 5
MATRIX 1 4
MATRIX 2 3
MATRIX 3 2

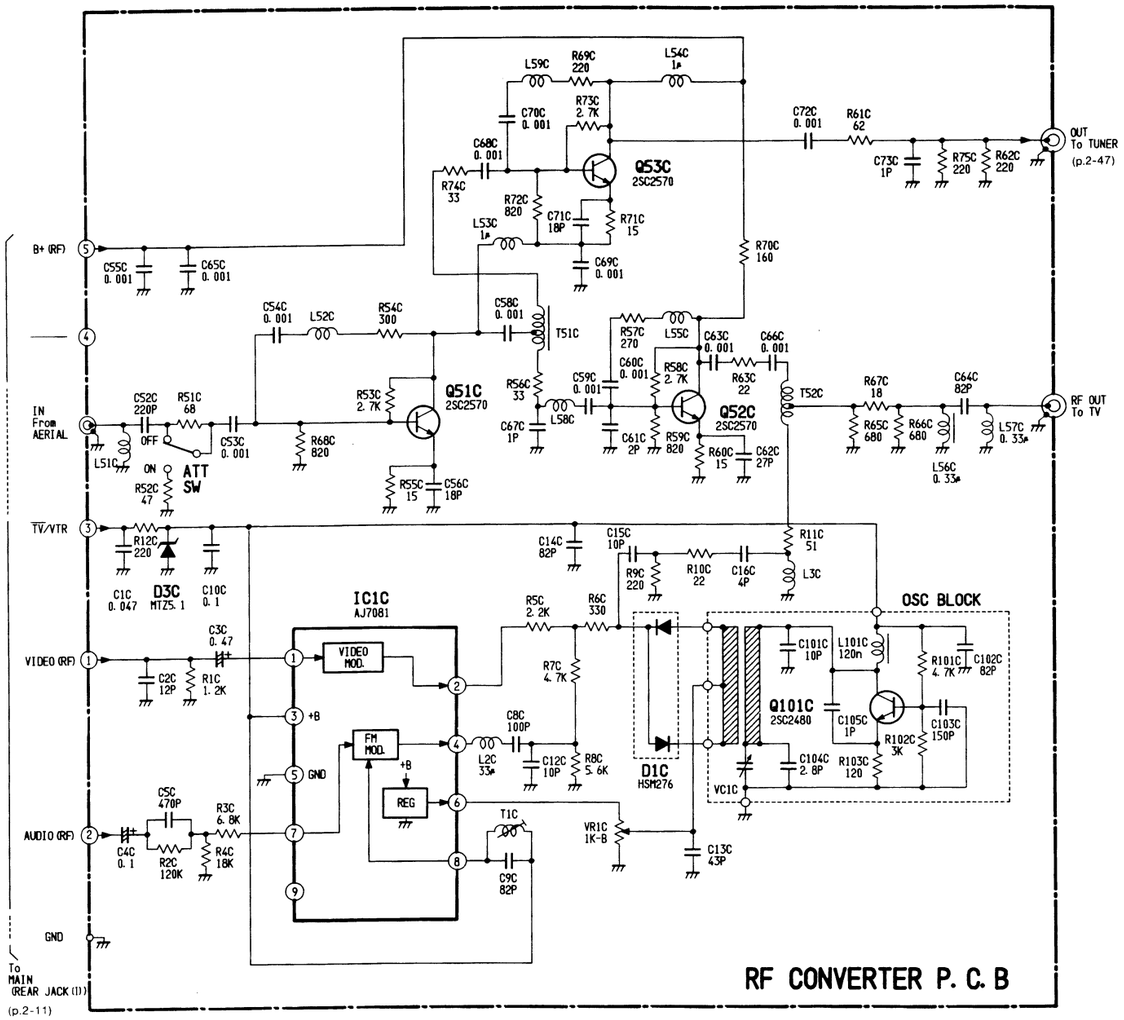
PG703
GND 12
A5V 11
RING 1 7
RING 2 6
RING 3 5
RING 4 4
DIAL (+) 2
DIAL (-) 1

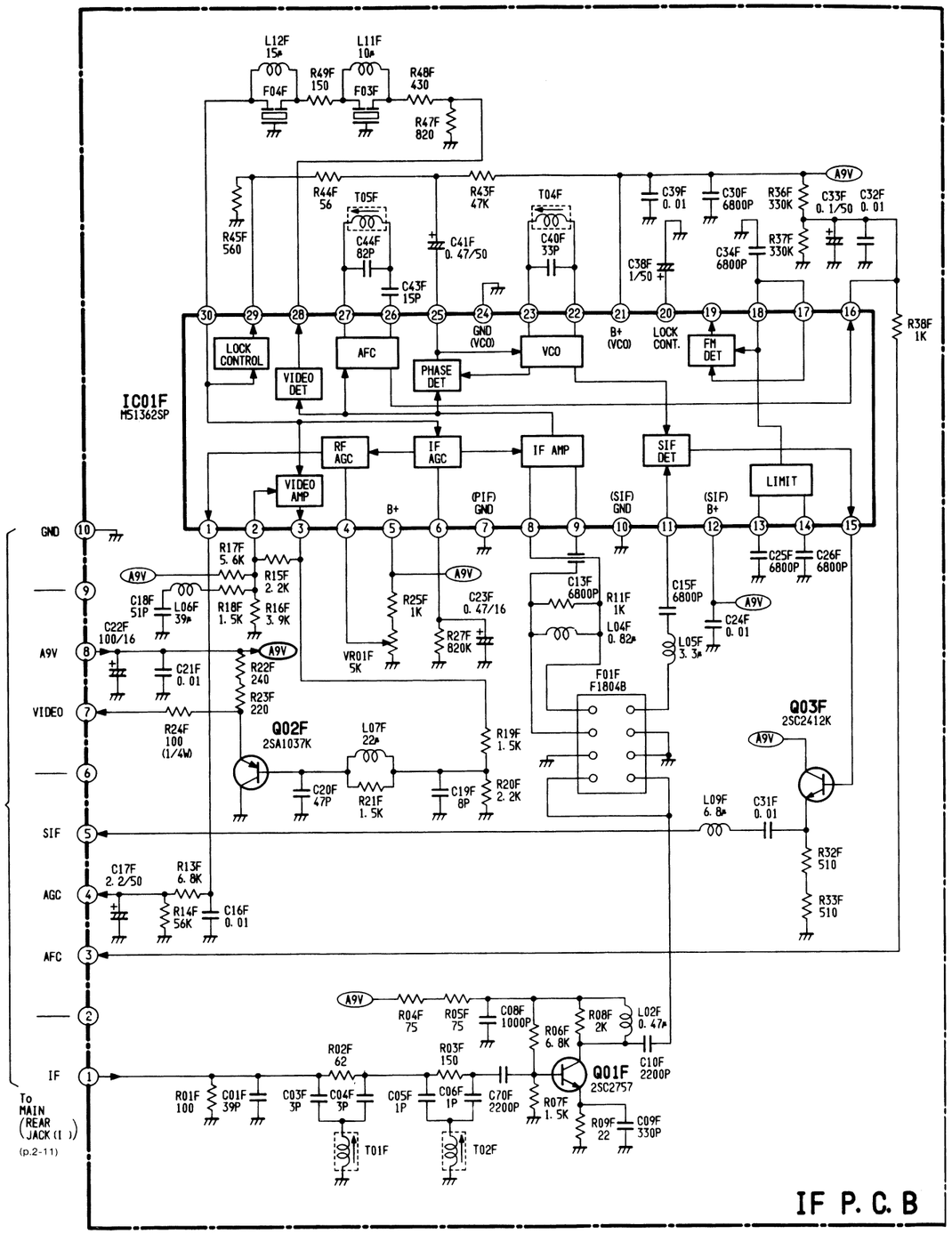
To WIRING (DOOR SW) PG755B

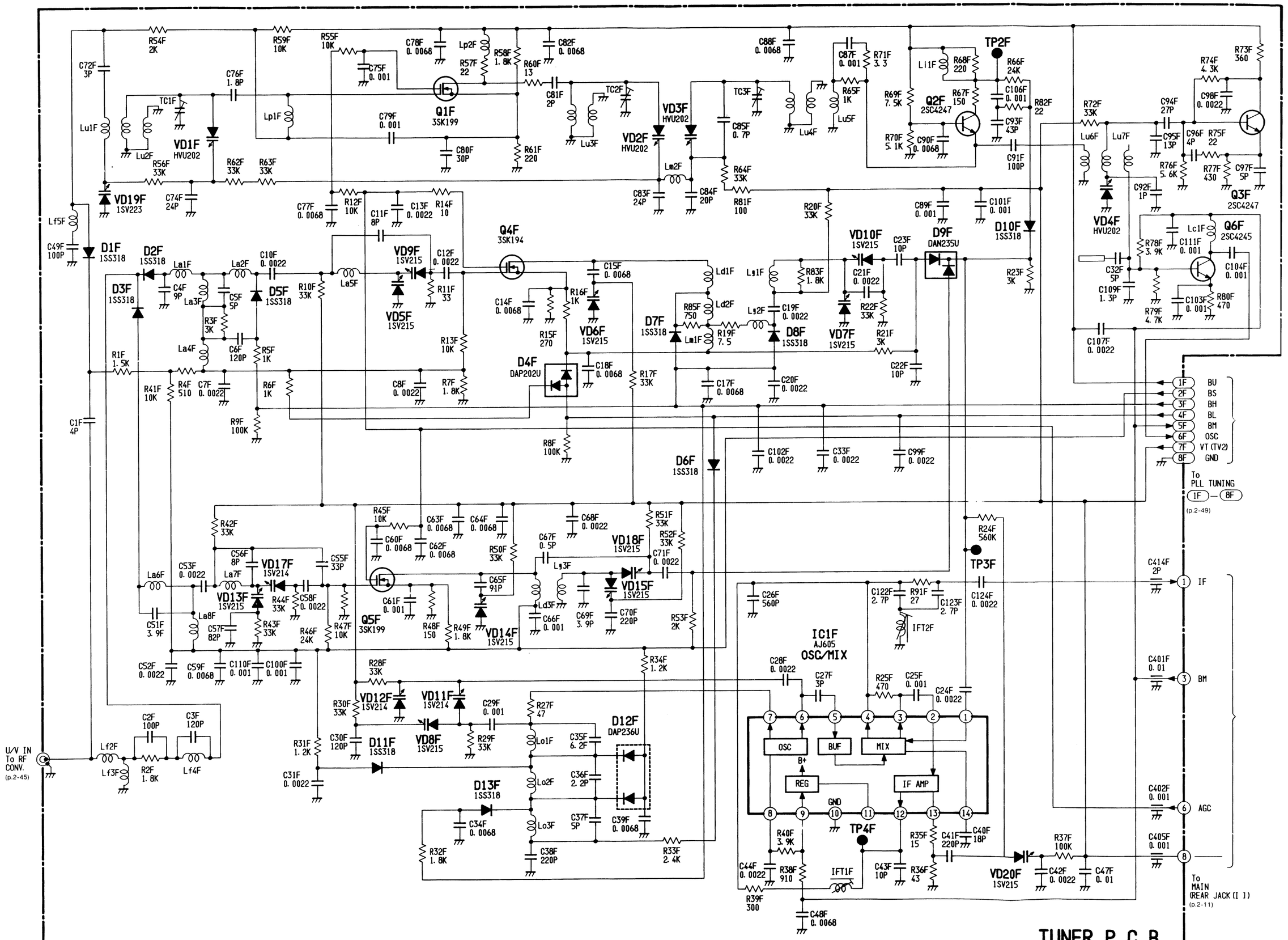
PG705 (p.2-42)
REF 4.5V 16
RC VOL. (L) 15
RC VOL. (R) 14
GND 13
MIX 12
5V 11
EDIT 10
PIX CONT. 9
SEC/MESEC 8
9.5V 6
H.PHONE (R) 5
H.PHONE VOL. 4
H.PHONE (L) 3
GND 2

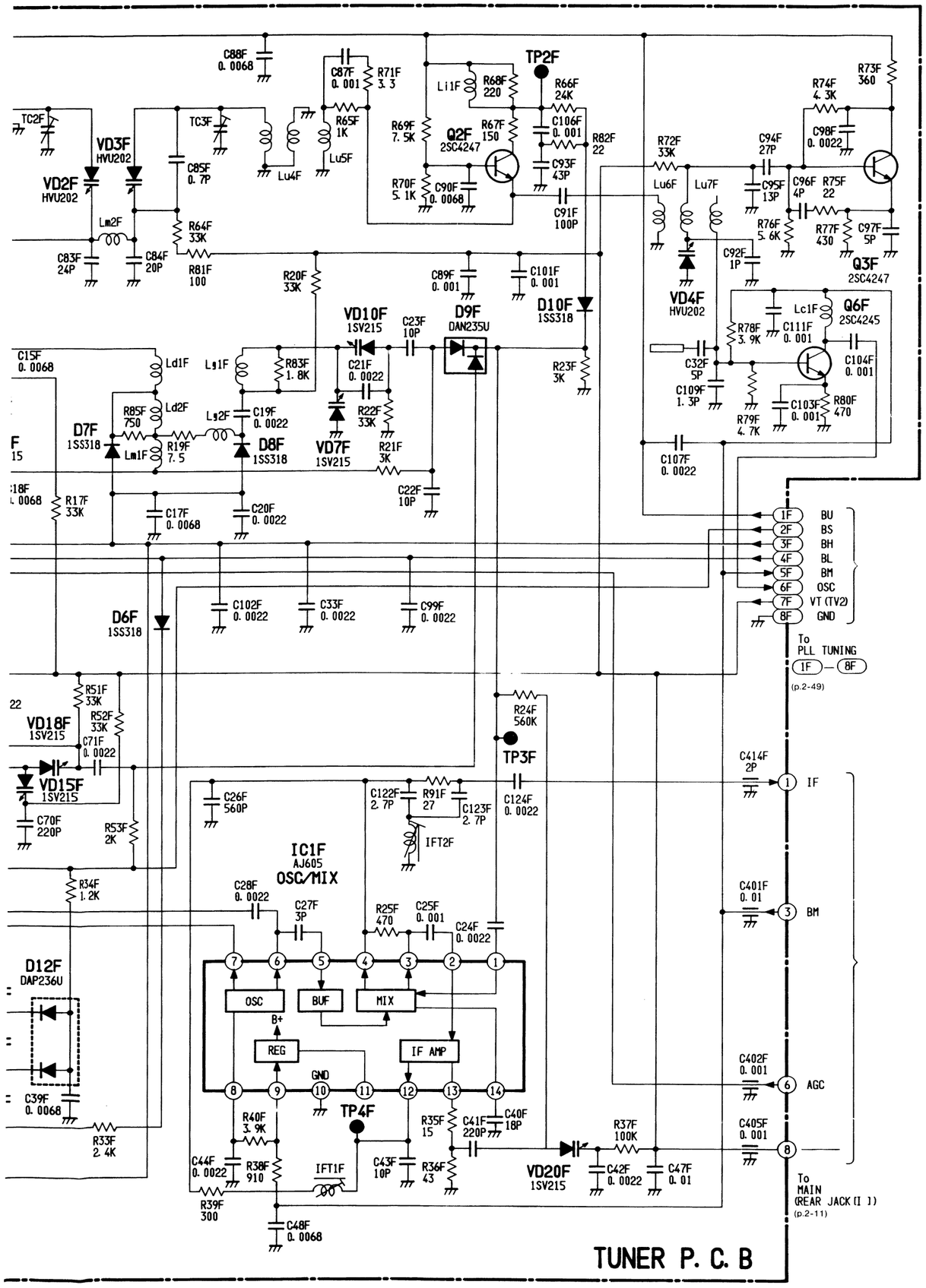
To FUNCTION SWITCH PG1705

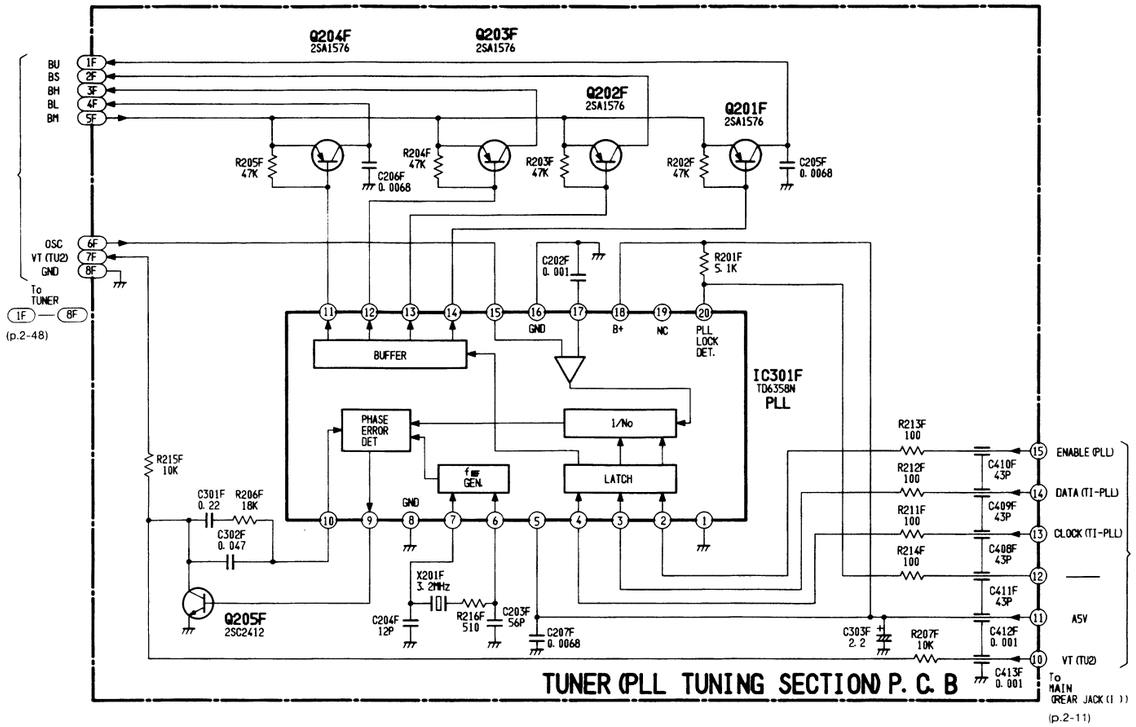
* ONE VOLTAGE: STOP MODE.

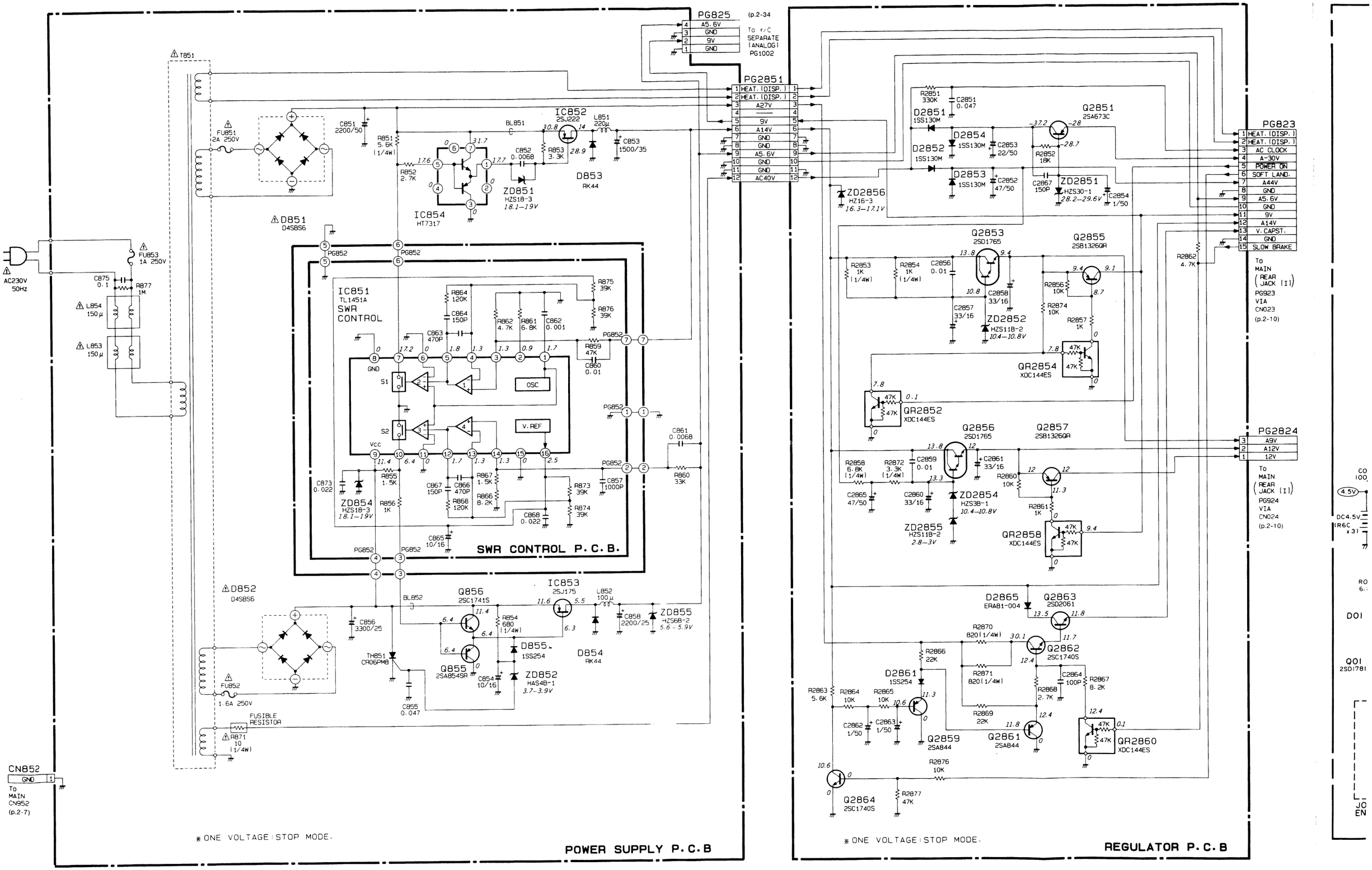

B+ (RF)
IN From AERIAL
TV/VTR
VIDEO (RF)
AUDIO (RF)
GND
OUT To TUNER (p.2-47)
RF OUT To TV
ATT SW
ON
OFF
Q51C 2SC2570
Q52C 2SC2570
Q53C 2SC2570
IC1C AJ7081
VIDEO MOD.
FM MOD.
REG
+B
D3C MTZ5.1
D1C HSM276
Q101C 2SC2480
OSC BLOCK
VC1C
To MAIN (REAR JACK (1)) (p.2-11)
RF CONVERTER P.C.B

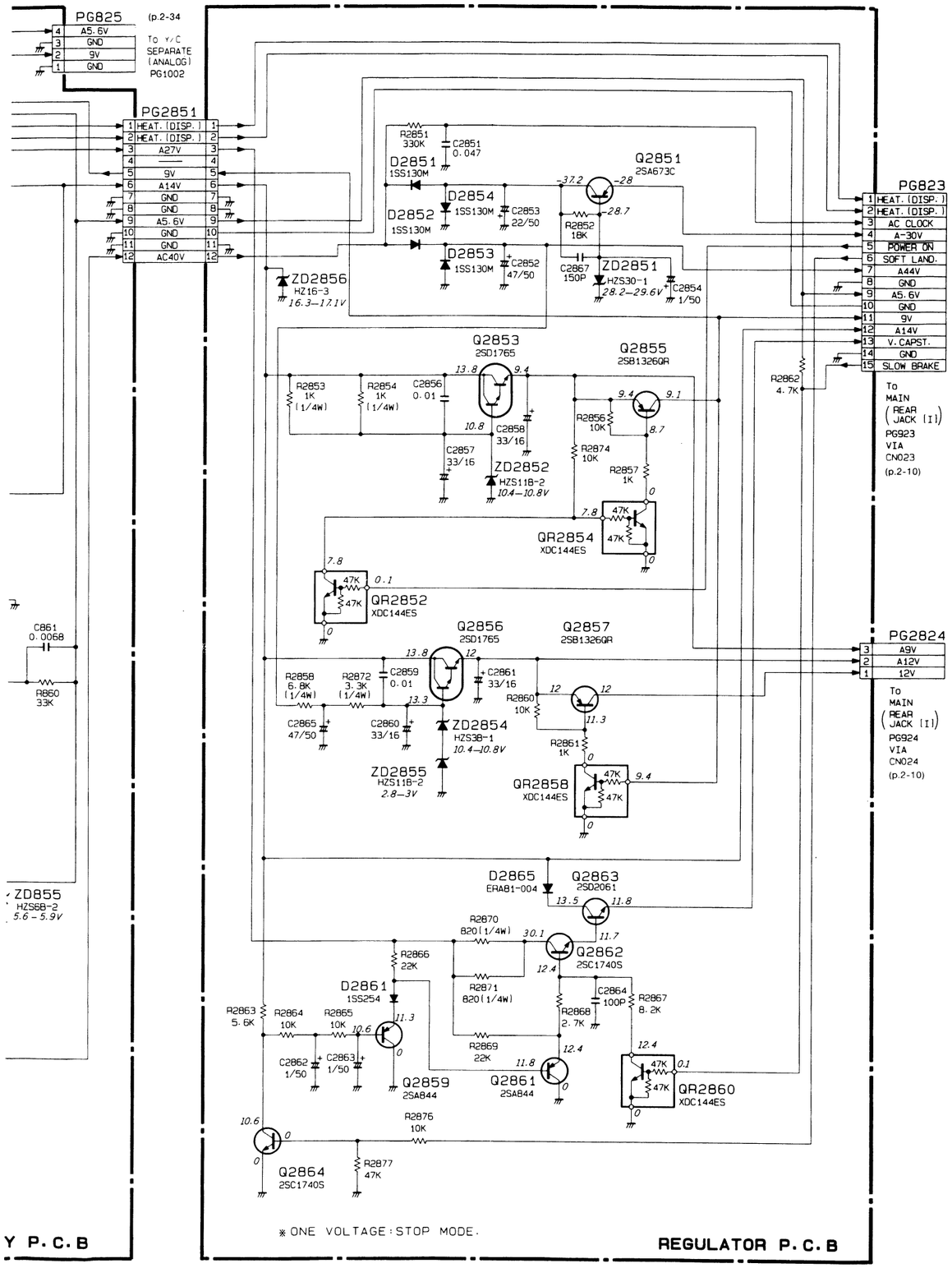

IC01F M51362SP
LOCK CONTROL
VIDEO DET
AFC
PHASE DET
VCO
FM DET
RF AGC
IF AGC
IF AMP
SIF DET
LIMIT
VIDEO AMP
GND
B+
(PIF) GND
(SIF) GND
(SIF) B+
A9V
VIDEO
SIF
AGC
AFC
IF
Q02F 2SA1037K
Q03F 2SC2412K
Q01F 2SC2757
F01F F1804B
VR01F 5K
T01F
T02F
To MAIN (REAR JACK (1)) (p.2-11)
IF P.C.B

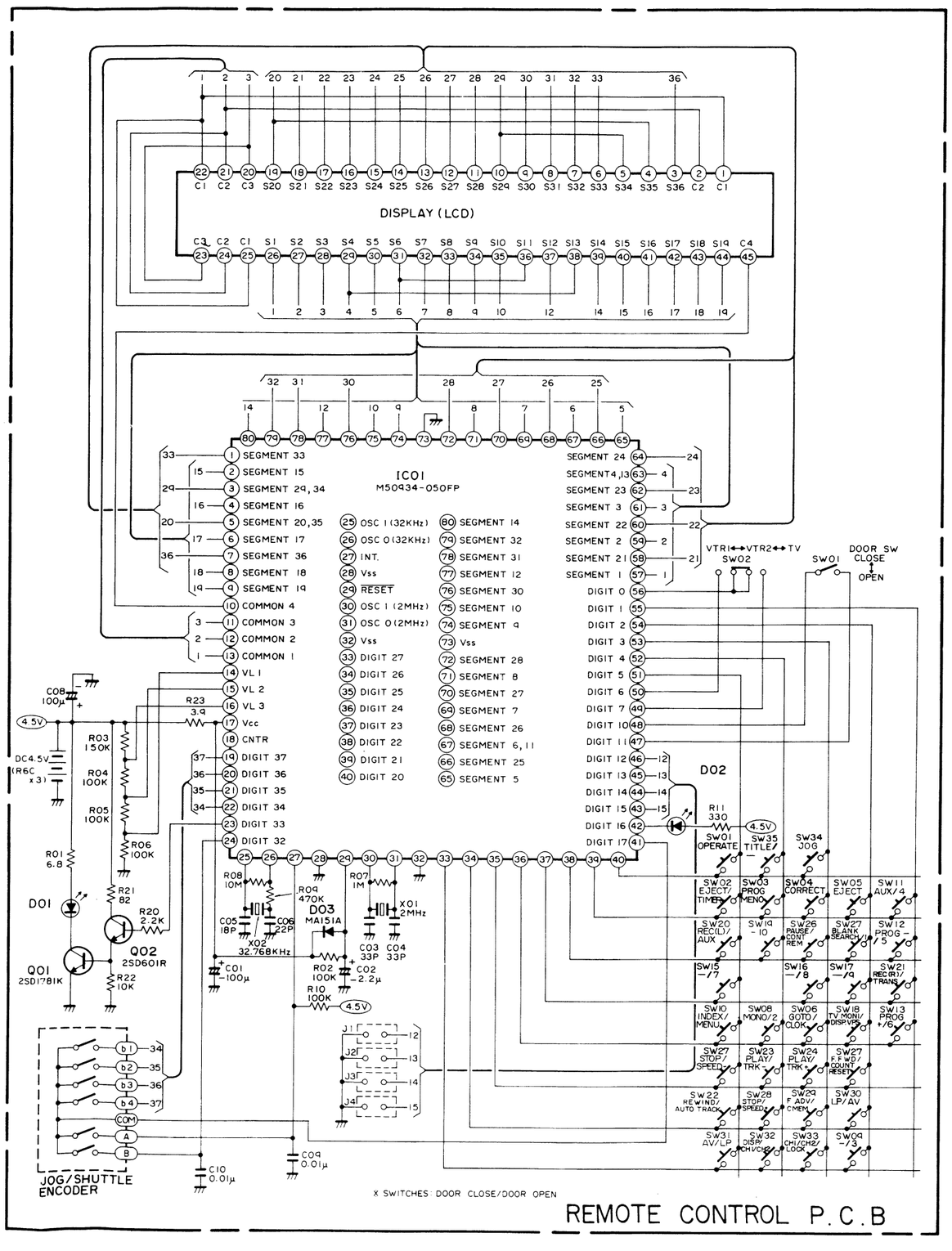

TUNER P. C. B
U/V IN
To RF CONV.
(p.2-45)
Lf2F
Lf3F
Lf4F
R2F 1.8K
C2F 100P
C3F 120P
Lf5F
C49F 100P
D1F 1SS318
D2F 1SS318
D3F 1SS318
La1F
La2F
La3F
La4F
La5F
C4F 9P
C5F 5P
C6F 120P
R3F 3K
R5F 1K
C10F 0.0022
D5F 1SS318
R1F 1.5K
C1F 4P
R41F 10K
R4F 510
C7F 0.0022
R6F 1K
R9F 100K
R10F 33K
C8F 0.0022
R7F 1.8K
R13F 10K
C11F 8P
C13F 0.0022
R14F 10
C12F 0.0022
VD9F 1SV215
VD5F 1SV215
R11F 33
Q4F 3SK194
C14F 0.0068
R15F 270
R16F 1K
VD6F 1SV215
C15F 0.0068
D4F DAP202U
C18F 0.0068
R17F 33K
R8F 100K
C77F 0.0068
R12F 10K
C78F 0.0068
Lp2F
R57F 22
R58F 1.8K
R60F 13
C82F 0.0068
C75F 0.001
C79F 0.001
C80F 30P
R61F 220
C81F 2P
TC2F
Lu3F
Q1F 3SK199
R54F 2K
R59F 10K
R55F 10K
C72F 3P
C76F 1.8P
TC1F
Lu1F
Lu2F
Lp1F
VD1F HVU202
R56F 33K
R62F 33K
R63F 33K
VD19F 1SV223
C74F 24P
VD2F HVU202
VD3F HVU202
TC3F
C85F 0.7P
R64F 33K
R81F 100
Lm2F
C83F 24P
C84F 20P
Lu4F
Lu5F
C87F 0.001
R71F 3.3
R65F 1K
C88F 0.0068
R20F 33K
C89F 0.001
C101F 0.001
D10F 1SS318
VD10F 1SV215
C23F 10P
D9F DAN235U
C21F 0.0022
R22F 33K
VD7F 1SV215
R21F 3K
C22F 10P
R83F 1.8K
Ld1F
Ls1F
Ld2F
Ls2F
R85F 750
R19F 7.5
Lm1F
D7F 1SS318
D8F 1SS318
C19F 0.0022
C20F 0.0022
C17F 0.0068
R23F 3K
C107F 0.0022
TP2F
Li1F
R68F 220
R67F 150
R69F 7.5K
R70F 5.1K
Q2F 2SC4247
C90F 0.0068
R66F 24K
C106F 0.001
C93F 43P
C91F 100P
R82F 22
R73F 360
R74F 4.3K
C98F 0.0022
R72F 33K
Lu6F
Lu7F
C94F 27P
C95F 13P
C96F 4P
R75F 22
R76F 5.6K
R77F 430
C97F 5P
Q3F 2SC4247
C92F 1P
VD4F HVU202
Lc1F
Q6F 2SC4245
C111F 0.001
R78F 3.9K
C32F 5P
C109F 1.3P
R79F 4.7K
C103F 0.001
R80F 470
C104F 0.001
C107F 0.0022
1F BU
2F BS
3F BH
4F BL
5F BM
6F OSC
7F VT (TV2)
8F GND
To PLL TUNING
1F – 8F
(p.2-49)
R45F 10K
C63F 0.0068
C64F 0.0068
C60F 0.0068
C62F 0.0068
C68F 0.0022
R50F 33K
C67F 0.5P
VD18F 1SV215
R51F 33K
R52F 33K
C71F 0.0022
Ls3F
Ld3F
C65F 91P
C66F 0.001
C69F 3.9P
C70F 220P
VD15F 1SV215
VD14F 1SV215
C61F 0.001
R48F 150
R49F 1.8K
Q5F 3SK199
R53F 2K
R42F 33K
C56F 8P
VD17F 1SV214
C55F 33P
La6F
La7F
La8F
VD13F 1SV215
R44F 33K
C58F 0.0022
C53F 0.0022
C51F 3.9F
C57F 82P
R43F 33K
R46F 24K
R47F 10K
C52F 0.0022
C59F 0.0068
C110F 0.001
C100F 0.001
R28F 33K
VD12F 1SV214
VD11F 1SV214
C29F 0.001
R30F 33K
R29F 33K
VD8F 1SV215
R27F 47
C30F 120P
D11F 1SS318
C31F 0.0022
R31F 1.2K
D12F DAP236U
C35F 6.2F
C36F 2.2P
C37F 5P
C39F 0.0068
Lo1F
Lo2F
Lo3F
D13F 1SS318
C34F 0.0068
R32F 1.8K
C38F 220P
R33F 2.4K
R34F 1.2K
C102F 0.0022
C33F 0.0022
C99F 0.0022
D6F 1SS318
R24F 560K
TP3F
C124F 0.0022
C122F 2.7P
R91F 27
C123F 2.7P
IFT2F
C26F 560P
IC1F AJ605 OSC/MIX
C28F 0.0022
C27F 3P
R25F 470
C25F 0.001
C24F 0.0022
OSC
BUF
MIX
IF AMP
REG
B+
GND
TP4F
R40F 3.9K
C44F 0.0022
R38F 910
IFT1F
R39F 300
C48F 0.0068
C43F 10P
R36F 43
R35F 15
C41F 220P
C40F 18P
VD20F 1SV215
R37F 100K
C42F 0.0022
C47F 0.01
C414F 2P
C401F 0.01
C402F 0.001
C405F 0.001
1 IF
3 BM
6 AGC
8
To MAIN (REAR JACK[I])
(p.2-11)

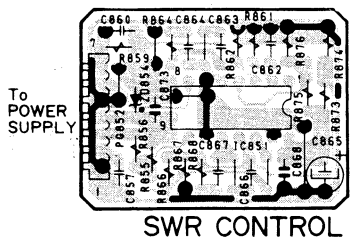

TP2F
Q2F 2SC4247
Q3F 2SC4247
Q6F 2SC4245
VD3F HVU202
VD2F HVU202
VD4F HVU202
D9F DAN235U
D10F 1SS318
VD10F 1SV215
D7F 1SS318
D8F 1SS318
VD7F 1SV215
D6F 1SS318
VD18F 1SV215
VD15F 1SV215
D12F DAP236U
IC1F AJ605 OSC/MIX
OSC
BUF
MIX
REG
IF AMP
B+
GND
TP4F
TP3F
IFT2F
IFT1F
VD20F 1SV215
1F BU
2F BS
3F BH
4F BL
5F BM
6F OSC
7F VT (TV2)
8F GND
To PLL TUNING 1F — 8F
(p.2-49)
C414F 2P
1 IF
C401F 0.01
3 BM
C402F 0.001
6 AGC
C405F 0.001
8
To MAIN (REAR JACK (I I))
(p.2-11)
TUNER P. C. B


Q204F 2SA1576
Q203F 2SA1576
Q202F 2SA1576
Q201F 2SA1576
BU
BS
BH
BL
BM
OSC
VT (TU2)
GND
To TUNER 1F — 8F
(p.2-48)
IC301F TD6358N PLL
BUFFER
PHASE ERROR DET
1/No
LATCH
fosc GEN.
B+
NC
PLL LOCK DET.
Q205F 2SC2412
X201F 3.2MHz
15 ENABLE (PLL)
14 DATA (TI-PLL)
13 CLOCK (TI-PLL)
12
11 A5V
10 VT (TU2)
To MAIN (REAR JACK (I I))
(p.2-11)
TUNER (PLL TUNING SECTION) P. C. B

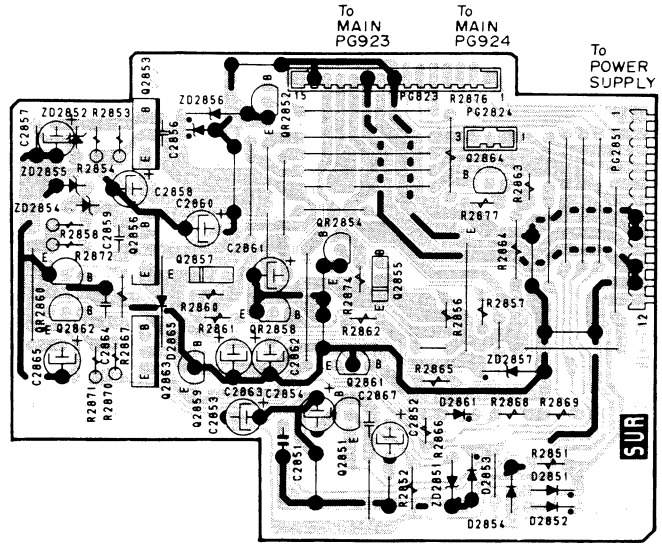

PG825
(p.2-34
To Y/C SEPARATE (ANALOG) PG1002
A5.6V
GND
9V
GND
PG2851
HEAT.(DISP.)
HEAT.(DISP.)
A27V
9V
A14V
GND
GND
A5.6V
GND
GND
AC40V
T851
FU851 2A 250V
C851 2200/50
R851 5.6K (1/4W)
R852 2.7K
BL851
IC852 2SJ222
L851 220μ
C853 1500/35
R853 3.3K
C852 0.0068
D853 RK44
ZD851 HZS18-3 18.1—19V
IC854 HT7317
D851 D4SBS6
AC230V 50Hz
FU853 1A 250V
C875 0.1
R877 1M
L854 150μ
L853 150μ
PG852
IC851 TL1451A SWR CONTROL
R864 120K
C864 150P
C863 470P
R862 4.7K
R861 6.8K
C862 0.001
R875 39K
R876 39K
R859 47K
C860 0.01
GND
S1
S2
Vcc
OSC
V.REF
C861 0.0068
R860 33K
C873 0.022
R855 1.5K
R856 1K
C867 150P
C866 470P
R868 120K
R867 1.5K
R866 8.2K
R873 39K
R874 39K
C857 1000P
C868 0.022
C865 10/16
ZD854 HZS18-3 18.1—19V
SWR CONTROL P.C.B.
D852 D4SBS6
BL852
Q856 2SC1741S
IC853 2SJ175
L852 100μ
C856 3300/25
R854 680 (1/4W)
D855 1SS254
D854 RK44
C858 2200/25
ZD855 HZ56B-2 5.6-5.9V
Q855 2SA854SR
C854 10/16
ZD852 HAS4B-1 3.7-3.9V
TH851 CR06PM8
C855 0.047
FU852 1.6A 250V
FUSIBLE RESISTOR
R871 10 (1/4W)
CN852
GND
To MAIN CN952 (p.2-7)
※ ONE VOLTAGE:STOP MODE.
POWER SUPPLY P.C.B
R2851 330K
C2851 0.047
D2851 1SS130M
D2852 1SS130M
D2853 1SS130M
D2854 1SS130M
C2853 22/50
C2852 47/50
Q2851 2SA673C
R2852 18K
C2867 150P
ZD2851 HZS30-1 28.2—29.6V
C2854 1/50
ZD2856 HZ16-3 16.3—17.1V
Q2853 2SD1765
Q2855 2SB1326QR
R2853 1K (1/4W)
R2854 1K (1/4W)
C2856 0.01
C2858 33/16
C2857 33/16
ZD2852 HZS11B-2 10.4—10.8V
R2856 10K
R2874 10K
R2857 1K
QR2854 XDC144ES
QR2852 XDC144ES
Q2856 2SD1765
Q2857 2SB1326QR
R2858 6.8K (1/4W)
R2872 3.3K (1/4W)
C2859 0.01
C2861 33/16
C2865 47/50
C2860 33/16
ZD2854 HZS3B-1 10.4—10.8V
ZD2855 HZS11B-2 2.8—3V
R2860 10K
R2861 1K
QR2858 XDC144ES
D2865 ERA81-004
Q2863 2SD2061
R2870 820 (1/4W)
Q2862 2SC1740S
R2866 22K
D2861 1SS254
R2871 820 (1/4W)
C2864 100P
R2867 8.2K
R2863 5.6K
R2864 10K
R2865 10K
R2868 2.7K
R2869 22K
C2862 1/50
C2863 1/50
Q2859 2SA844
Q2861 2SA844
QR2860 XDC144ES
R2876 10K
Q2864 2SC1740S
R2877 47K
※ ONE VOLTAGE:STOP MODE.
REGULATOR P.C.B
PG823
HEAT.(DISP.)
HEAT.(DISP.)
AC CLOCK
A-30V
POWER ON
SOFT LAND.
A44V
GND
A5.6V
GND
9V
A14V
V.CAPST.
GND
SLOW BRAKE
R2862 4.7K
To MAIN (REAR JACK (I1)) PG923 VIA CN023 (p.2-10)
PG2824
A9V
A12V
12V
To MAIN (REAR JACK (I1)) PG924 VIA CN024 (p.2-10)
CO 100
4.5V
DC4.5V (R6C x3)
RO 6.
DOI
QOI 2SDI781
JO EN


PG825
(p.2-34
To Y/C SEPARATE (ANALOG) PG1002
A5.6V
GND
9V
GND
PG2851
HEAT.(DISP.)
HEAT.(DISP.)
A27V
9V
A14V
GND
GND
A5.6V
GND
AC40V
R2851 330K
C2851 0.047
D2851 1SS130M
D2854 1SS130M
D2852 1SS130M
D2853 1SS130M
C2853 22/50
C2852 47/50
Q2851 2SA673C
R2852 18K
C2867 150P
ZD2851 HZS30-1 28.2–29.6V
C2854 1/50
ZD2856 HZ16-3 16.3–17.1V
PG823
HEAT.(DISP.)
HEAT.(DISP.)
AC CLOCK
A-30V
POWER ON
SOFT LAND.
A44V
GND
A5.6V
GND
9V
A14V
V.CAPST.
GND
SLOW BRAKE
R2862 4.7K
To MAIN (REAR JACK (I)) PG923 VIA CN023 (p.2-10)
Q2853 2SD1765
Q2855 2SB1326QR
R2853 1K (1/4W)
R2854 1K (1/4W)
C2856 0.01
C2858 33/16
C2857 33/16
R2856 10K
R2874 10K
R2857 1K
ZD2852 HZS11B-2 10.4–10.8V
QR2854 XDC144ES
QR2852 XDC144ES
C861 0.0068
R860 33K
ZD2855 HZS6B-2 5.6–5.9V
Q2856 2SD1765
Q2857 2SB1326QR
R2858 6.8K (1/4W)
R2872 3.3K (1/4W)
C2859 0.01
C2861 33/16
C2865 47/50
C2860 33/16
ZD2854 HZS3B-1 10.4–10.8V
ZD2855 HZS11B-2 2.8–3V
R2860 10K
R2861 1K
QR2858 XDC144ES
PG2824
A9V
A12V
12V
To MAIN (REAR JACK (I)) PG924 VIA CN024 (p.2-10)
D2865 ERA81-004
Q2863 2SD2061
R2870 820 (1/4W)
Q2862 2SC1740S
R2866 22K
D2861 1SS254
R2871 820 (1/4W)
C2864 100P
R2867 8.2K
R2863 5.6K
R2864 10K
R2865 10K
C2862 1/50
C2863 1/50
R2868 2.7K
R2869 22K
Q2859 2SA844
Q2861 2SA844
QR2860 XDC144ES
R2876 10K
Q2864 2SC1740S
R2877 47K
* ONE VOLTAGE: STOP MODE.
Y P.C.B
REGULATOR P.C.B

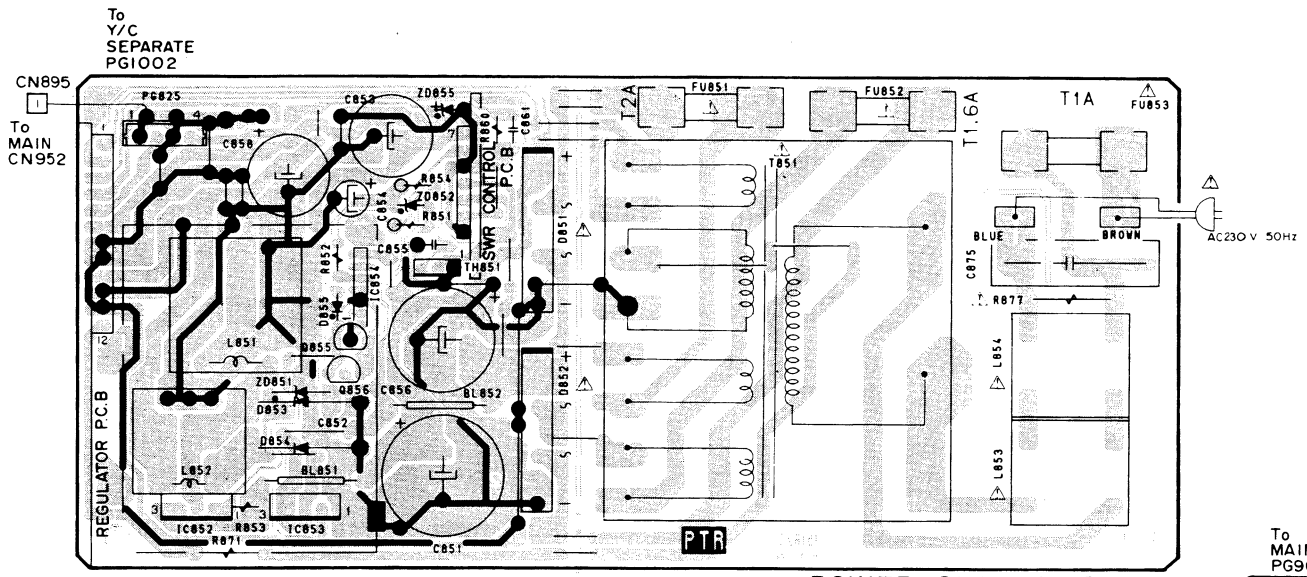

DISPLAY (LCD)
IC01
M50934-050FP
SEGMENT 33
SEGMENT 15
SEGMENT 29,34
SEGMENT 16
SEGMENT 20,35
SEGMENT 17
SEGMENT 36
SEGMENT 18
SEGMENT 19
COMMON 4
COMMON 3
COMMON 2
COMMON 1
VL1
VL2
VL3
Vcc
CNTR
DIGIT 37
DIGIT 36
DIGIT 35
DIGIT 34
DIGIT 33
DIGIT 32
OSC I (32KHz)
OSC O (32KHz)
INT.
Vss
RESET
OSC I (2MHz)
OSC O (2MHz)
Vss
DIGIT 27
DIGIT 26
DIGIT 25
DIGIT 24
DIGIT 23
DIGIT 22
DIGIT 21
DIGIT 20
SEGMENT 14
SEGMENT 32
SEGMENT 31
SEGMENT 12
SEGMENT 30
SEGMENT 10
SEGMENT 9
Vss
SEGMENT 28
SEGMENT 8
SEGMENT 27
SEGMENT 7
SEGMENT 26
SEGMENT 6,11
SEGMENT 25
SEGMENT 5
SEGMENT 24
SEGMENT4,13
SEGMENT 23
SEGMENT 3
SEGMENT 22
SEGMENT 2
SEGMENT 21
SEGMENT 1
DIGIT 0
DIGIT 1
DIGIT 2
DIGIT 3
DIGIT 4
DIGIT 5
DIGIT 6
DIGIT 7
DIGIT 10
DIGIT 11
DIGIT 12
DIGIT 13
DIGIT 14
DIGIT 15
DIGIT 16
DIGIT 17
VTR1↔VTR2↔TV SW02
DOOR SW CLOSE OPEN SW01
C08 100µ
4.5V
DC4.5V (R6C x3)
R03 150K
R04 100K
R05 100K
R06 100K
R01 6.8
D01
Q01 2SD1781K
R21 82
R20 2.2K
Q02 2SD601R
R22 10K
R23 3.9
R08 10M
R09 470K
R07 1M
X01 2MHz
C05 18P
C06 22P
X02 32.768KHz
D03 MA151A
C03 33P
C04 33P
C01 100µ
R02 100K
C02 2.2µ
R10 100K
D02
R11 330
SW01 OPERATE
SW35 TITLE/ −
SW34 JOG
SW02 EJECT/ TIMER
SW03 PROG MENU
SW04 CORRECT
SW05 EJECT
SW11 AUX/4
SW20 REC(L)/ AUX
SW19 −10
SW26 PAUSE/ CONT REM
SW27 BLANK SEARCH/+5
SW12 PROG −/5
SW15 −/7
SW16 −/8
SW17 −/9
SW21 REC(R)/ TRANS
SW10 INDEX/ MENU
SW08 MONO/2
SW06 GOTO/ CLOK
SW18 TV MONI/ DISP/VS
SW13 PROG +/6
SW27 STOP/ SPEED
SW23 PLAY/ TRK +
SW24 PLAY/ TRK −
SW27 F.FWD/ COUNT RESET
SW22 REWIND/ AUTO TRACK
SW28 STOP/ SPEED
SW29 F.ADV/ CMEM
SW30 LP/AV
SW31 AV/LP
SW32 DISP/ CH/CLK
SW33 CH1/CH2/ CLOCK
SW09 −/3
J1
J2
J3
J4
b1
b2
b3
b4
COM
A
B
JOG/SHUTTLE ENCODER
C10 0.01µ
C09 0.01µ
X SWITCHES: DOOR CLOSE/DOOR OPEN
REMOTE CONTROL P.C.B



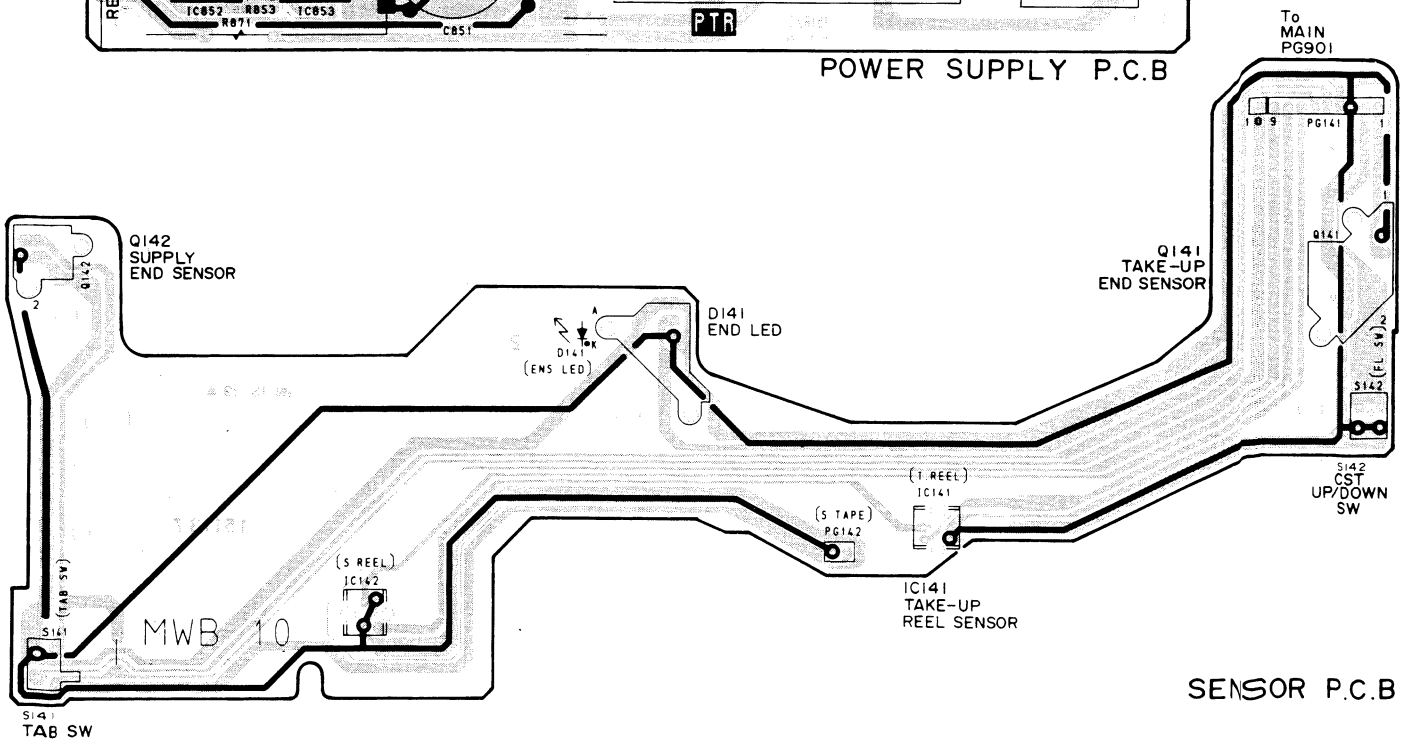
SWR CONTROL
P.C.B



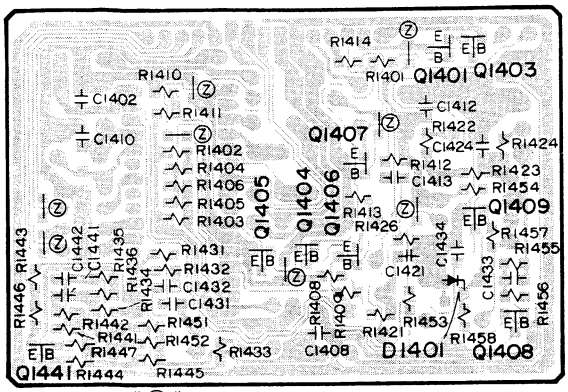
REGULATOR P.C.B



POWER SUPPLY P.C.B



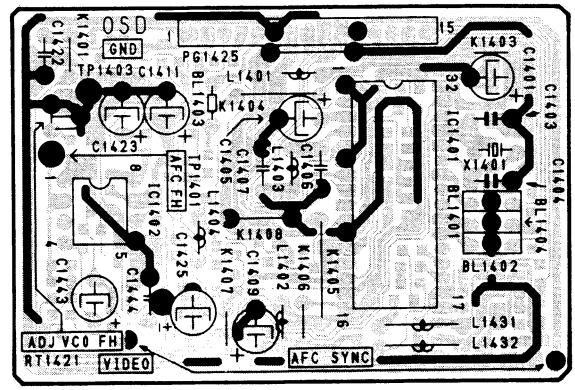
SENSOR P.C.B



NOTE. MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

OSD P. C. B

To MAIN PG1425

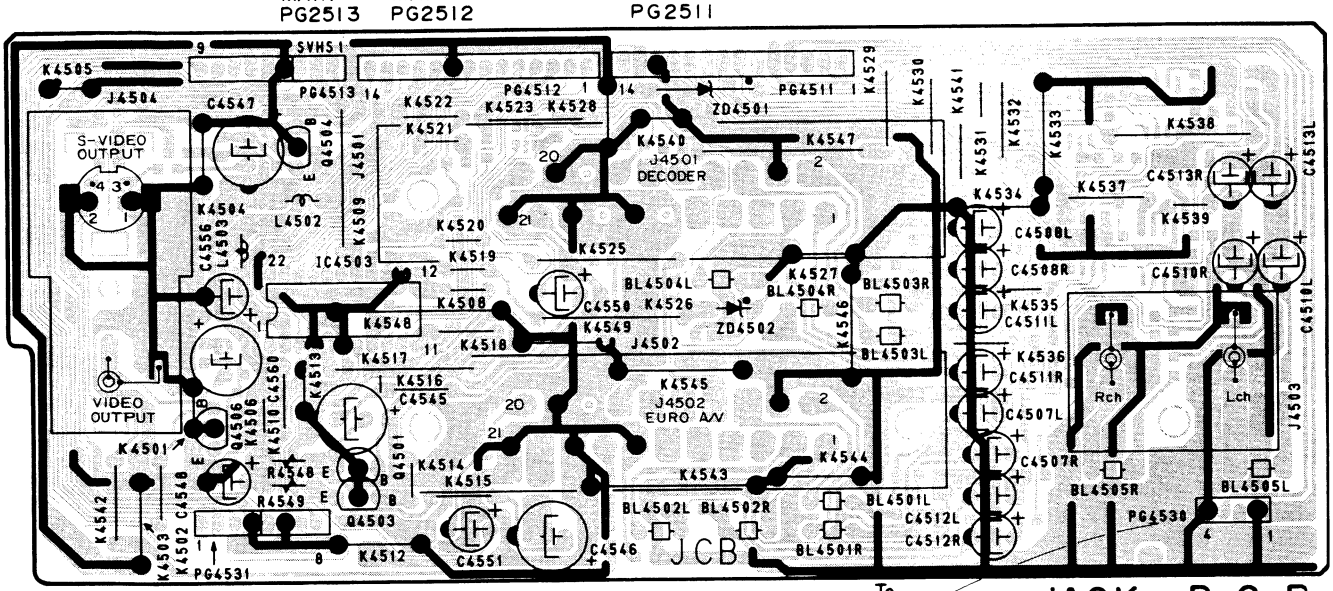


OSD P. C. B

To MAIN PG2513

To MAIN PG2512

To MAIN PG2511

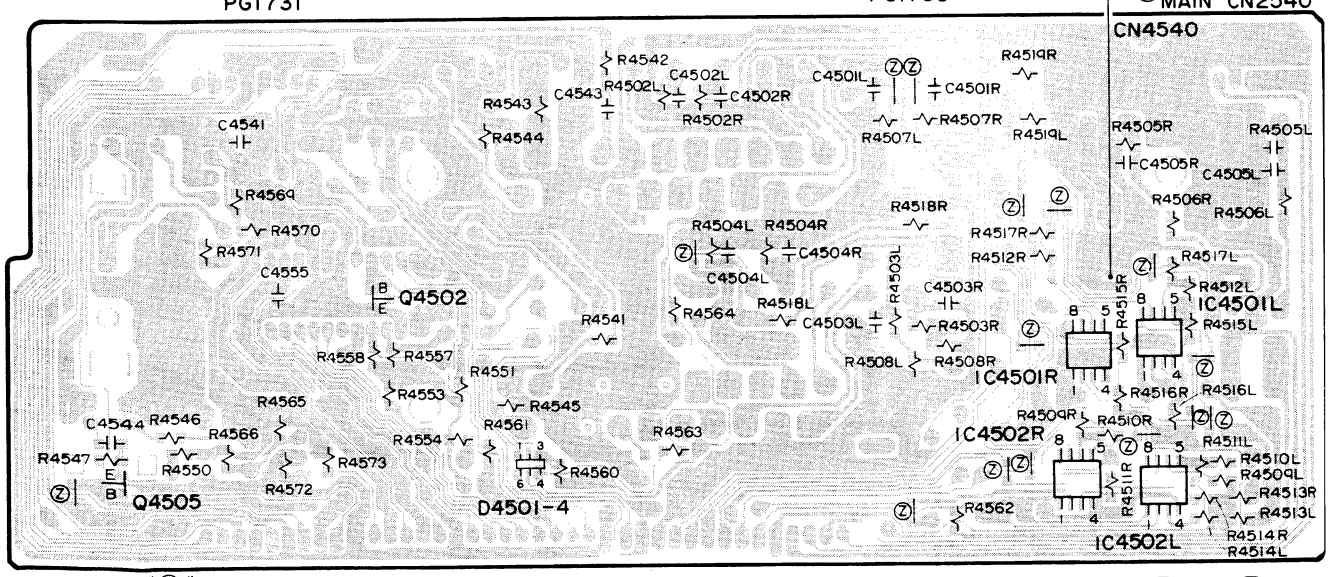


To FRONT JACK PG1731

To FRONT JACK PG1730

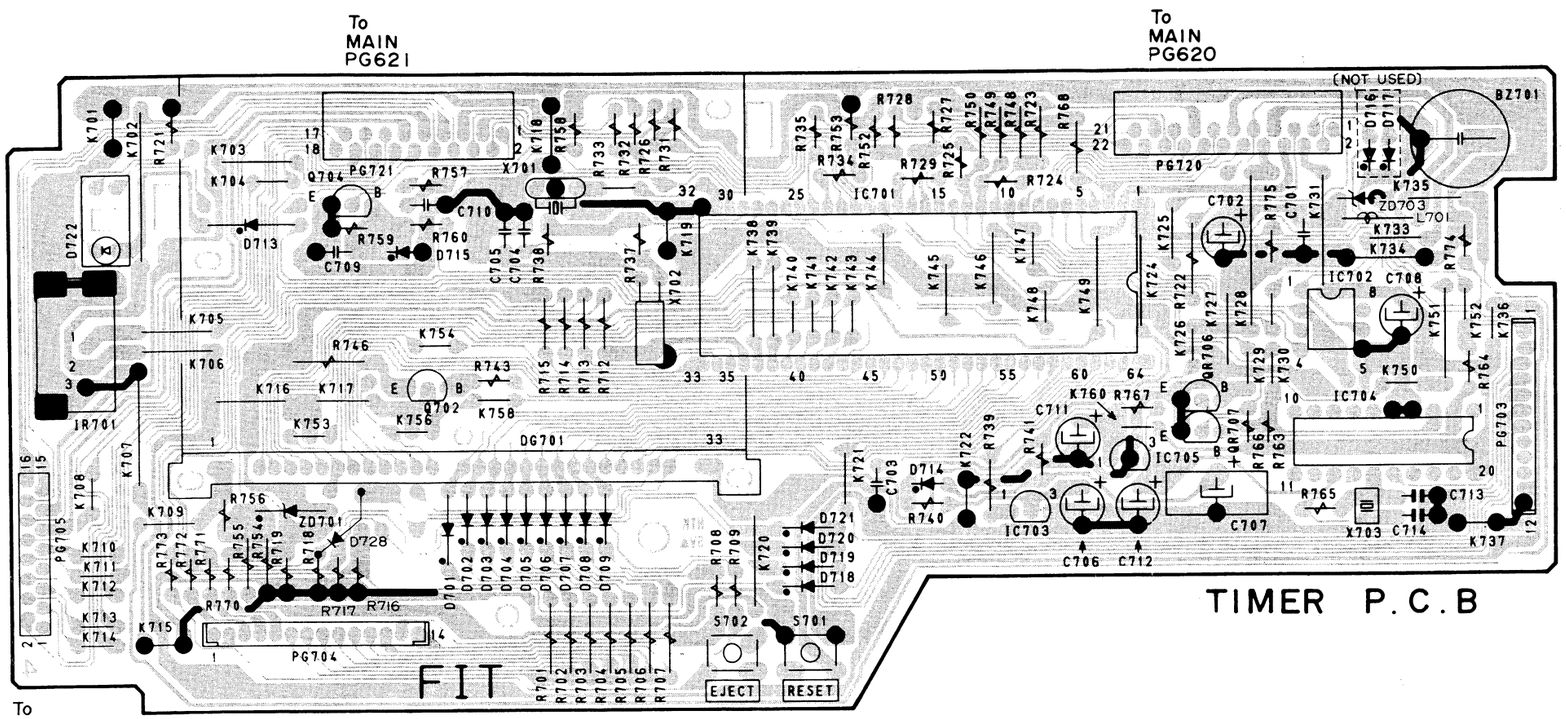
JACK P. C. B

To MAIN CN2540

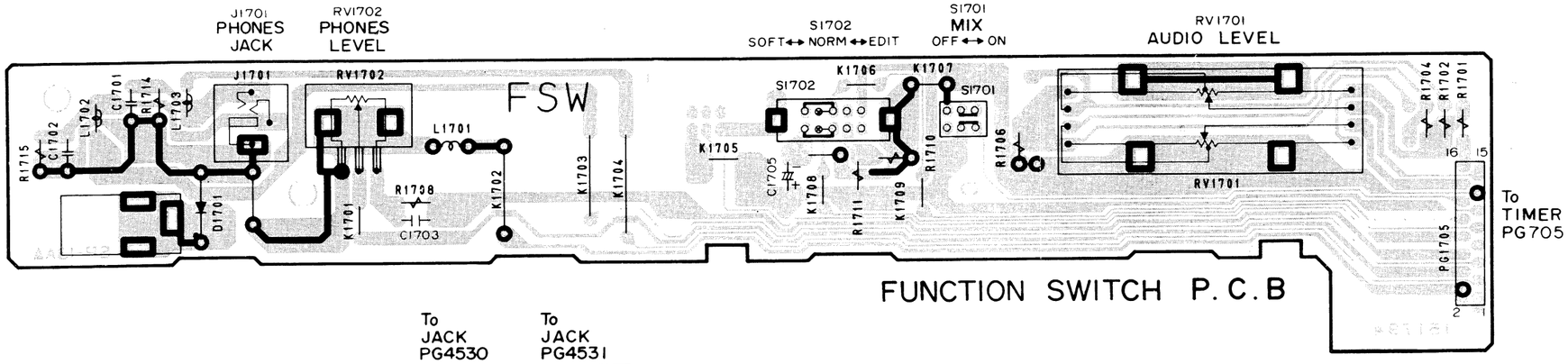


NOTE: MARK "Ⓩ" IS LEADESS (CHIP) JUMPER.

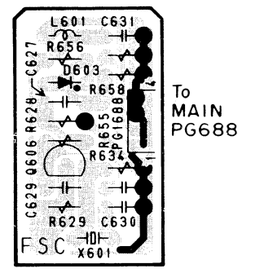
JACK P. C. B



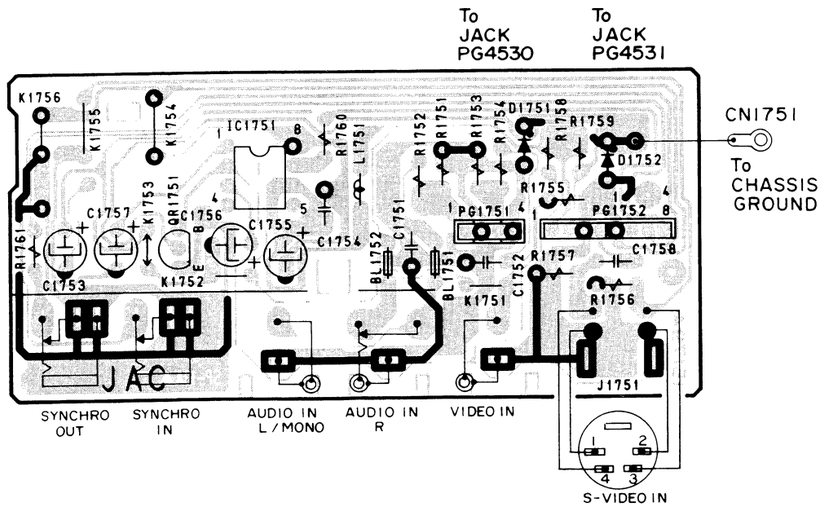
TIMER P.C.B



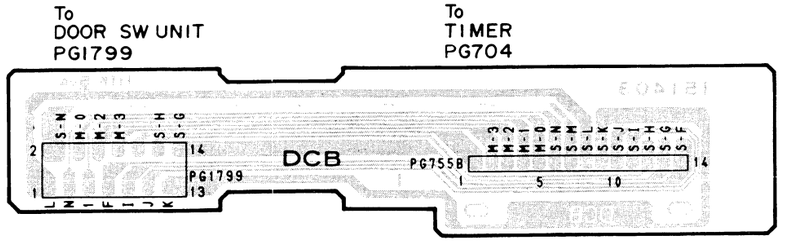
FUNCTION SWITCH P.C.B



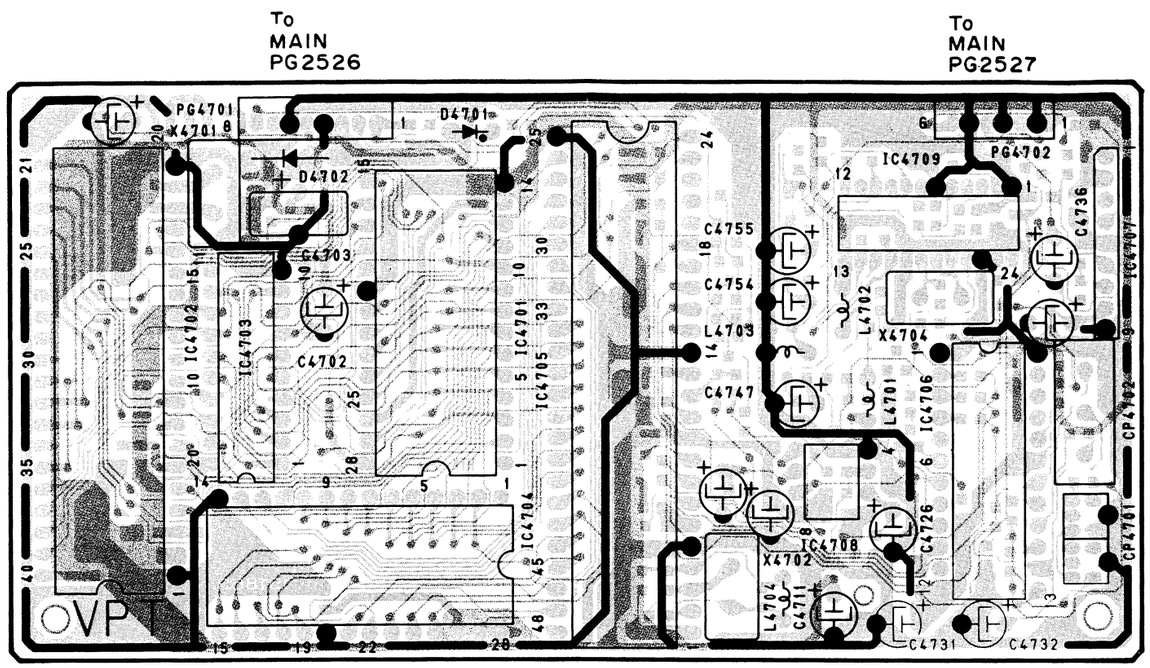
3.58MHz GEN P.C.B



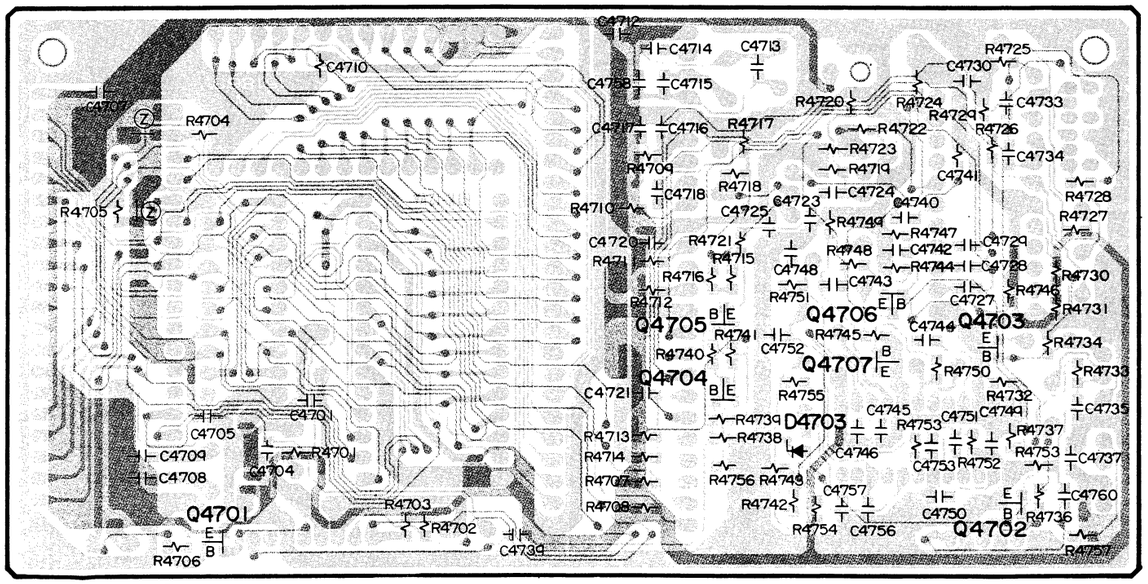
FRONT JACK P.C.B



WIRING P.C.B

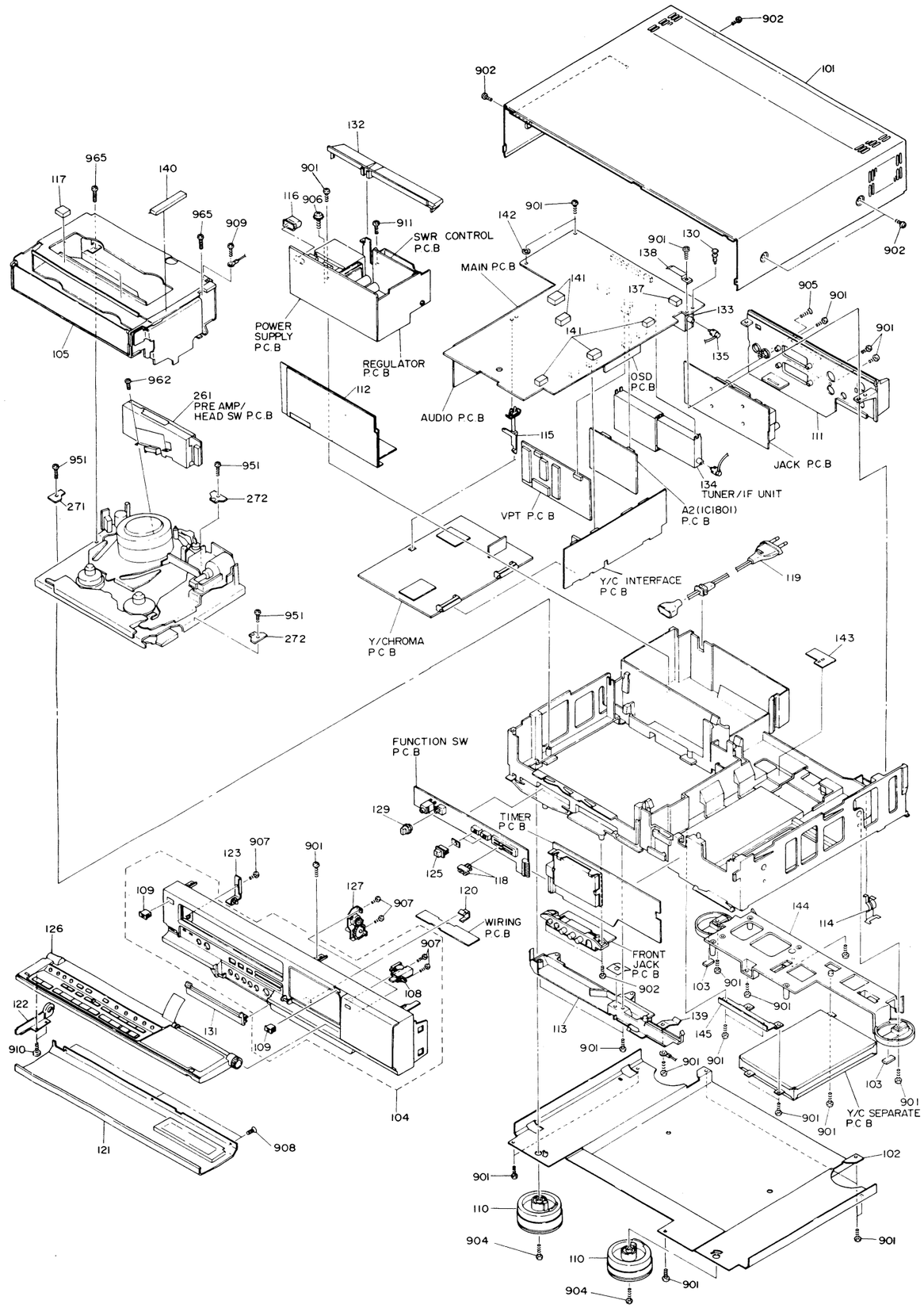


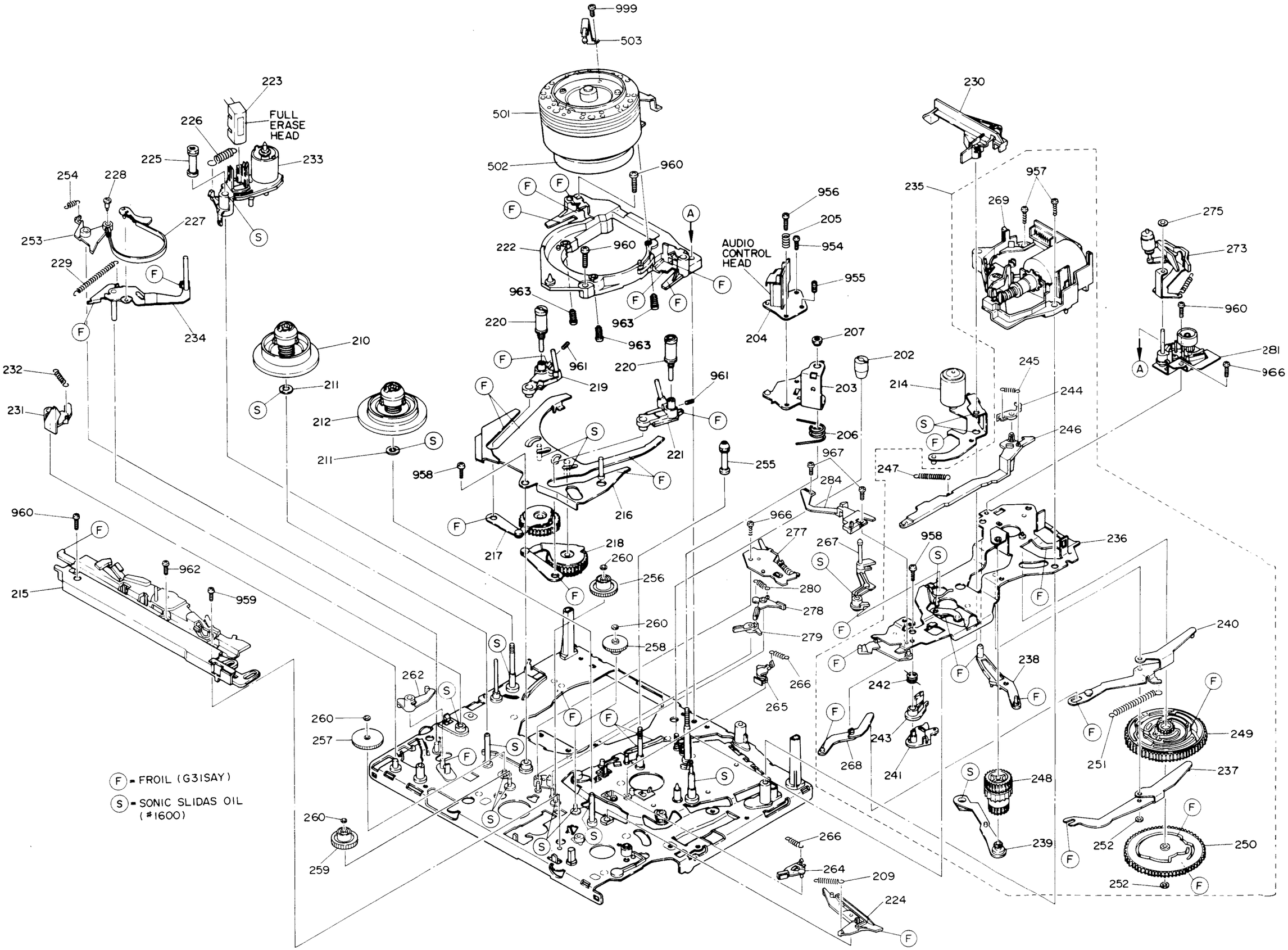
VPT P.C.B

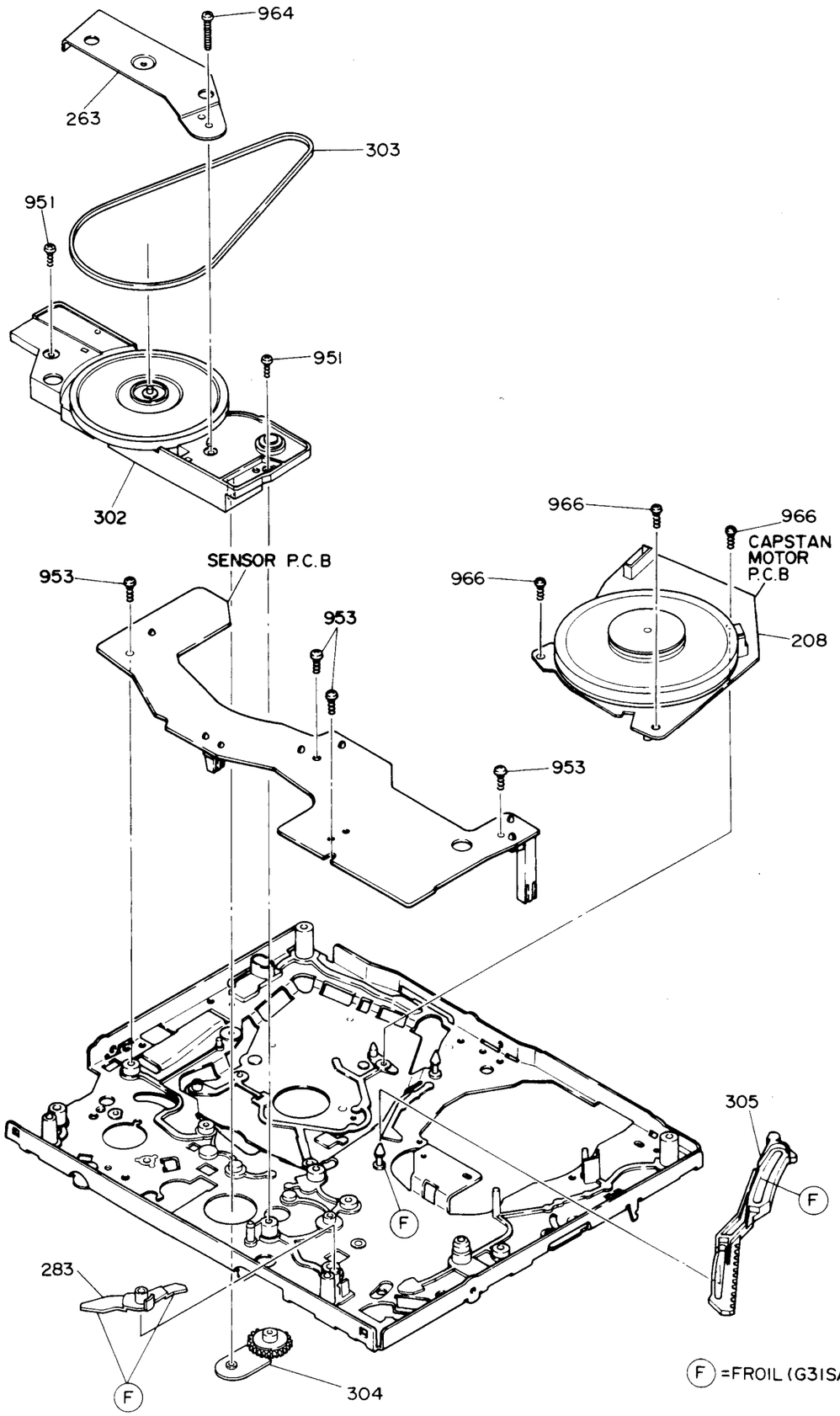


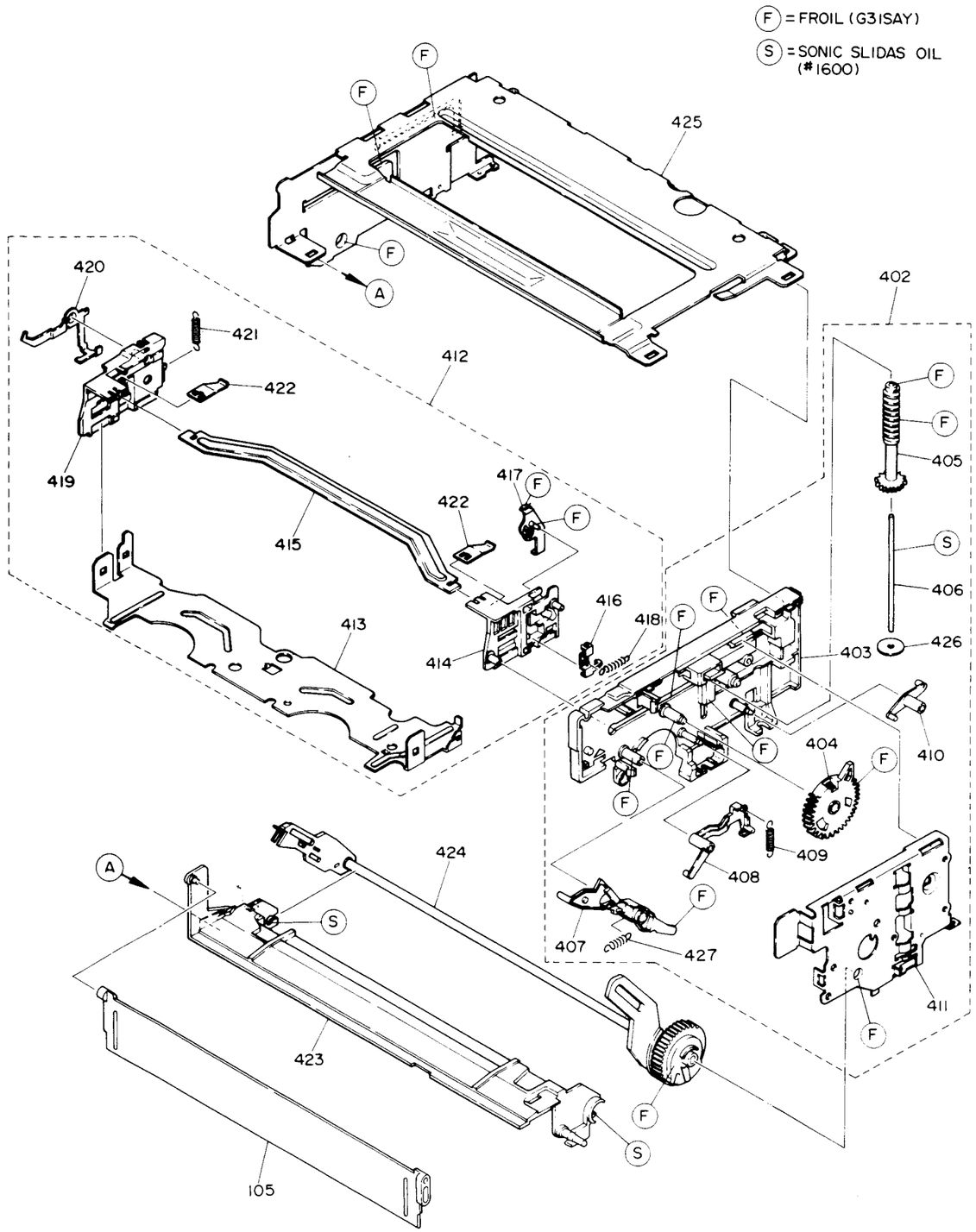
NOTE : MARK "Ⓩ" IS LEADLESS(CHIP) JUMPER.

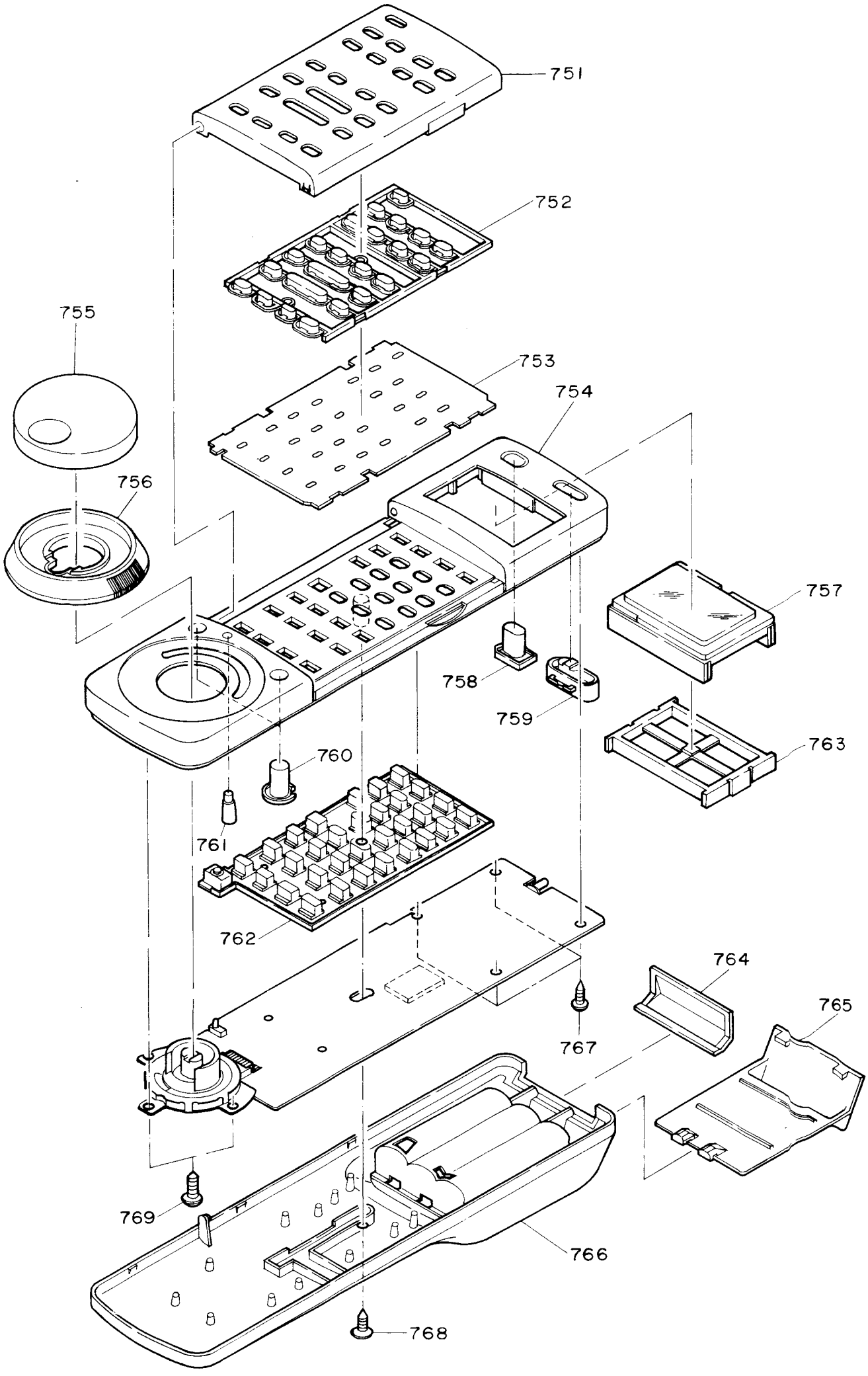
VPT P.C.B




FULL ERASE HEAD
AUDIO CONTROL HEAD
(F) = FROIL (G31SAY)
(S) = SONIC SLIDAS OIL (#1600)


964
263
303
951
951
302
SENSOR P.C.B
953
953
966
966
966
CAPSTAN
MOTOR
P.C.B
208
953
305
F
283
F
304
F =FROIL (G31SAY)


F =FROIL (G31SAY)
S =SONIC SLIDAS OIL
(#1600)
425
A
420
421
422
412
402
419
415
422
417
405
406
426
413
416
418
414
403
410
404
409
408
407
427
411
424
A
S
423
105
F
S


751
752
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763
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766
768

ERSATZTEILELISTE **NR.: 1083**
SPARE PARTS LIST

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
	BAUGRUPPEN	**UNITS**	
	IR-GEBER FB 875	REMOTE CONTROLLER	263-85086.L00
IC2502	VPS-DECODER-IC	HES 8052 A	349-90147.913
IC1801	LPL.AUDIO DEMODUL.A2	PWB ASSY MIC 3803 C	349-90194.988
IC0354	PLAYBACK CHROMA GEN.	PWB ASSY HES 8081 C	349-90199.977
IR0701	IR-EMPFÄNGER-MODUL	LIGTH DET.COMPONENT	353-90156.982
0002	NETZTEILPLATTE PTA	PWB ASSY POWER SUPPLY	398-90214.915
0003	STABILISIERUNG SUB	PWB ASSY REGULATOR	398-90214.934
0004	LPL.SCHALTREGLER	PWB ASSY SWR CONTROL	398-90214.953
0005	Y/C INTERFACE WYC	PWB ASSY Y/C INTERFACE	398-90214.972
0006	LPL.Y/CHROMA SH	PWB ASSY Y/CHROMA	398-90214.991
0007	LPL.Y/C SEPARATE	PWB ASSY Y/C SEPARATE	398-90215.909
0008	BUCHSENPLATTE JCB	PWB ASSY JACK	398-90214.941
0009	LEITERPLATTE OSD	PWB ASSY OSD	398-90215.928
0010	LPL.3,58MHZ GEN. FSC	PWB ASSY 3,58MHZ GEN.	398-90214.979
0011	TIMERPLATTE FIT	PWB ASSY TIMER	398-90215.966
0012	BEDIENUNGSPLATTE FSW	PWB ASSY FUNCTION SW	398-90214.998
0013	BUCHSENPLATTE JAC	PWB ASSY FRONT JACK	398-90215.916
0014	LPL.VERBINDUNG DCB	PWB ASSY WIRING	398-90200.972
0015	SENSORPLATTE MWB	PWB ASSY SENSOR	398-90215.985
0016	LEITERPLATTE VPT	PWB ASSY VPT	398-90215.947
0126	BEDIENPANEL	SWITCH DOOR	469-90215.934
0133	MODULATOR	CONVERTOR,RF	291-90189.944
0134	TUNER/ZF-EINHEIT	TUNER IF BLOCK	260-90209.966
0261	VORVERSTÄRKER	PRE AMPLIFIER	398-90215.946
	TRANSISTOREN	**TRANSISTORS**	
Q 0141	PT 483 F1	TAKE-UP END SENSOR	346-90125.957
Q 0142	PT 483 F1	SUPPLY END SENSOR	346-90125.957
Q 0401	KSR 1004		346-90194.972
Q 0403	2 SC 1740 SR		346-90105.900
Q 0406	2 SC 3553 BC		346-90105.901
Q 0507	KSC 945 C		346-90183.948
Q 0508	KSC 945 C		346-90183.948
Q 0511	KSR 1004		346-90194.972
Q 0513	DTA 144 ES-T		346-90136.936
Q 0602	KSC 945 C		346-90183.948
Q 0604	KSC 945 C		346-90183.948
Q 0605	KSC 945 C		346-90183.948
Q 0606	KSC 945 C		346-90183.948
Q 0608	2 SA 933 S,R		346-90140.922
Q 0609	2 SA 933 S,R		346-90140.922
Q 0702	2 SC 1740 S-ST		346-90129.956
Q 0704	2 SC 1740 S-ST		346-90129.956

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION	BESTELL-NUMMER LIST-PART-NMB
Q 0801	DTC 144 ES	346-90130.912
Q 0802	DTC 144 ES	346-90130.912
Q 0855	2 SA 854(S)	346-90215.945
Q 0856	2 SC 1741 SQR	346-90195.947
Q 0901	2 SB 1326(Q)	346-90195.966
Q 0906	2 SA1390 C	346-90129.943
Q 0913	2 SC 3553 BC	346-90105.901
Q 0914	2 SA 844 CD-TB	346-90083.954
Q 1025	FMY 3 (Y3)	346-90178.911
Q 1026	XDC 144 EK	346-90208.976
Q 1028	XDC 144 EK	346-90208.976
Q 1029	2 SB 1326(Q)	346-90195.966
Q 1401	2 SD 1757 KR/KS	346-90196.903
Q 1533	KSC 945 C	346-90183.948
Q 1534	2 SA 854 SQR	346-90200.933
Q 1535	KSC 945 C	346-90183.948
Q 2501	2 SC 1740 SR	346-90105.900
Q 2502	DTA 144 ES-T	346-90136.936
Q 2504	2 SA1390 C	346-90129.943
Q 2505	2 SA 933 S,R	346-90140.922
Q 2506	2 SA 933 S,R	346-90140.922
Q 2507	2 SD 655	346-90194.991
Q 2508	DTC 144 ES	346-90130.912
Q 2531	2 SA 933 S,R	346-90140.922
Q 2851	2 SA 673 C	346-90071.906
Q 2853	2 SD 1765	346-90183.929
Q 2855	2 SB 1326(Q)	346-90195.966
Q 2856	2 SD 1765	346-90183.929
Q 2857	2 SB 1326(Q)	346-90195.966
Q 2859	2 SA 844 CD-TB	346-90083.954
Q 2861	2 SA 844 CD-TB	346-90083.954
Q 2862	2 SC 1740 RS	346-90125.962
Q 2863	2 SD 2061	346-90193.998
Q 2864	2 SC 1740 RS	346-90125.962
Q 4501	2 SA1390 C	346-90129.943
Q 4503	2 SA1390 C	346-90129.943
Q 4504	2 SA1390 C	346-90129.943
Q 4506	2 SA1390 C	346-90129.943
Q 4702	2 SB 709 AR	346-90165.915
Q 4703	2 SB 709 AR	346-90165.915
Q 4705	2 SB 709 AR	346-90165.915
QR0362	DTC 144 ES	346-90283.971
QR0404	DTC 144 ES	346-90130.912
QR0451	DTC 144 ES	346-90130.912
QR0452	KSR 1004	346-90194.972
QR0503	KSR 1004	346-90194.972
QR0601	KSR 1004	346-90194.972
QR0607	KSR 1004	346-90194.972
QR0706	DTC 144 ES	346-90130.912

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
QR0707	DTC 144 ES		346-90130.912
QR0902	KSR 1004		346-90194.972
QR0907	KSR 1004		346-90194.972
QR0912	KSR 1004		346-90194.972
QR0915	KSR 1004		346-90194.972
QR0917	XDC 144 ES		346-90210.971
QR0918	XDA 144 ES		346-90215.964
QR1751	DTC 144 ES		346-90130.912
QR1901	KSR 1004		346-90194.972
QR2852	XDC 144 ES		346-90210.971
QR2854	XDC 144 ES		346-90210.971
QR2858	XDC 144 ES		346-90210.971
QR2860	XDC 144 ES		346-90210.971
Q0501L	KSC 945 C		346-90183.948
Q0501R	KSC 945 C		346-90183.948
Q0505L	KSC 945 C		346-90183.948
Q0505R	KSC 945 C		346-90183.948
Q0512L	2 SD 655		346-90194.991
Q0512R	2 SD 655		346-90194.991
Q1531L	KSC 945 C		346-90183.948
Q1531R	KSC 945 C		346-90183.948
Q1532L	KSC 945 C		346-90183.948
Q1532R	KSC 945 C		346-90183.948
TH0851	CR 6 PM-8		346-90215.983
	INTEGRIERTE SCHALTUNGEN / INTEGRATED CIRCUITS		
IC0141	ON 2170 R	AUFWICKELTELLER-SENSOR TAKE-UP REEL SENSOR	349-90195.946
IC0142	ON 2170(Q)	ABWICKELTELLER-SENSOR SUPPLY REEL SENSOR	349-90193.963
IC0201	HT 7267 C	PROCESS	349-90211.999
IC0202	BA 7604 N		349-90146.954
IC0203	CXL 5003 P	CCD 1H DELAY	349-90213.917
IC0204	RC 78M05 E		349-90204.945
IC0351	HT 7219 C	CHROMA PROCESS	349-90213.936
IC0353	NJM 2234 S		349-90146.955
IC0354	HES 8081 C		349-90199.977
IC0355	UPD 74 HC 221 AC		349-90213.955
IC0401	XRA 7767 AS	LINEAR AUDIO PROCESS	349-90193.982
IC0451	HT 7219 C		349-90213.936
IC0451L	M 5201 L	L-CH AUDIO INPUT SW	349-90113.990
IC0451R	M 5201 L	R-CH AUDIO INPUT SW	349-90113.990
IC0501	XRA 7703 K 1-VP	FM AUDIO PROCESS	349-90195.926
IC0502	BA 6138	COMPRESSOR	349-90195.945
IC0503	M 5223 L	BUFFER	349-90195.964
IC0601	HD 49741 ANT	SERVO CONTROL	349-90213.974
IC0602	XRA 6459 P1	CYLINDER MOTOR DRIVE	349-90193.934
IC0701	M 38103 M 6-101 SP	TIMER UP	349-90208.991
IC0702	M 6 M 80041 P	EA-ROM	349-90195.978
IC0703	S 8053 ALB	RESET	349-90140.962

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
IC0704	M 50760-301 P	CORD CONVERTOR	349-90194.957
IC0705	PST 520 F	RESET	349-90098.911
IC0851	TL.1451 A	SWR CONTROL	349-90195.965
IC0852	2 SJ 222		346-90213.975
IC0853	2 SJ 175		346-90213.994
IC0854	HT 7317		349-90214.912
IC0901	UPD75516GF-325-3B9	SYSTEM CONTROL	349-90214.931
IC0902	XRA 6209 U 4	TAPE LOADING DRIVER	349-90166.957
IC0904	PST 520 C	RESET	349-90196.902
IC1001	L 7 A 0612	MEMORY CONTROL	349-90214.969
IC1002	CXD 1175 AM	VIDEO A/D CONVERTOR	349-90214.988
IC1003	CXD 1175 AM	Y.A/D CONVERTOR	349-90214.988
IC1004	HA 19510 MP	CHROMA D/A CONVERTOR	349-90215.906
IC1005	HA 19510 MP	Y.D/A CONVERTOR	349-90215.906
IC1006	M 514212	MEMORY	349-90215.925
IC1007	M 514212	MEMORY	349-90215.925
IC1008	M 514212	MEMORY	349-90215.925
IC1009	TC 7 S 04 F		349-90215.944
IC1010	BA 7046 F		349-90215.963
IC1012	NJM 2245 M		349-90215.982
IC1013	TC 4 SU69 F		349-90153.952
IC1201	HT 7312 A	TLL COMB FILTER	349-90213.976
IC1202	BA 7023 L		349-90146.963
IC1203	HA.118099		349-90147.907
IC1207	HT 7325		349-90213.995
IC1401	M 50558-106 SP	CHARACTER GENERATOR	349-90193.972
IC1402	BA 7046	PLL H.SYNC GENERATOR	349-90214.913
IC1531	RC 4558	REF GEN/ALC	349-90166.908
IC1532	RC 4558	THEATER AMP	349-90166.908
IC1751	NJM 2233 BD	VIDEO/Y SELECT SWITCH	349-90214.932
IC1801	MIC 3803 C A2		349-90194.988
IC1901	M 50927-218 SP	AUTO TRACKING UP	349-90200.914
IC2201	XRA 7025 L		349-90165.917
IC2202	XRA 7267 S		349-90214.951
IC2203	BA 7604 N		349-90146.954
IC2204	NJM 2249 S		349-90195.951
IC2205	NJM 2233 BSA		349-90146.952
IC2206	NJM 2234 S		349-90146.955
IC2207	NJM 2249 S		349-90195.951
IC2208	BA 7604 N		349-90146.954
IC2209	BA 7604 N		349-90146.954
IC2301	JCP 0021 / AN3271FBP	Y/C INTERFACE	349-90214.989
IC2302	MC 14066 BCP		349-90215.907
IC2303	RC 78M05 E	5V REGULATOR	349-90204.945
IC2304	BA 7604 N		349-90146.954
IC2501	XRU 4053 B	DECODER TUNER SELECTOR	349-90206.955
IC2502	HES 8052 A	VPS DECODER	349-90147.913
IC2503	HT 4619-A		349-90113.961
IC2504	LA 7016		349-90104.979

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
IC2531	M 51489 L	VIDEO AGC	349-90143.916
IC2551	NJM 2234 S	VIDEO INPUT SW/TITLE ADDER	349-90146.955
IC4501L	M 5201 FP	AUDIO-L OUTPUT SW	349-90195.925
IC4501R	M 5201 FP	AUDIO-R OUTPUT SW	349-90195.925
IC4502L	M 5201 FP	DECODER-L INPUT SW	349-90195.925
IC4502R	M 5201 FP	DECODER-R INPUT SW	349-90195.925
IC4503	BA 7630 S		349-90194.953
IC4701	HM 6264 AL	SCRATCH PAD	349-90194.985
IC4702	83 C654 PAC 018	VPT UP	349-90195.903
IC4703	SC 74 HCT 373	ADDRESS LATCH	349-90195.922
IC4704	HM 6264 AL	MEMORY DISPLAY	349-90194.985
IC4705	SAA 5246	TELE TEXT DECODER	349-90211.968
IC4706	CXA 1145 P	PAL ENCODER	349-90195.960
IC4707	NJM 2248 S	TEXT SELECT SW	349-90139.951
IC4708	LM 393	TEXT HUE CORRECTOR	349-90195.941
IC4709	LA 7332	4,43 MHZ GENERATOR	349-90195.940
IR0701	GPIU0522H(GP1U52XH)		353-90156.982
QF1201	ICP-N10/U 400MA		349-90195.932
QF2301	ICP-N10/U 400MA		349-90195.932
	DIODEN	**DIODES**	
D 0141	GL451 ROSA	BANDENDE-LED / END LED	353-90125.937
D 0206	1 SS254		352-90104.978
D 0207	1 SS254		352-90104.978
D 0401	1 N 4531		352-90189.903
D 0402	1 N 4531		352-90189.903
D 0403	1 N 4531		352-90189.903
D 0404	1 SS133		352-90070.924
D 0451	1 N 4531		352-90189.903
D 0452	1 N 4531		352-90189.903
D 0453	1 N 4531		352-90189.903
D 0501	1 N 4531		352-90189.903
D 0601	1 N 4531		352-90189.903
D 0602	1 N 4531		352-90189.903
D 0603	1 N 4531		352-90189.903
D 0604	1 N 4531		352-90189.903
D 0605	1 N 4531		352-90189.903
D 0606	1 N 4531		352-90189.903
D 0701	1 N 4531		352-90189.903
D 0702	1 N 4531		352-90189.903
D 0703	1 N 4531		352-90189.903
D 0704	1 N 4531		352-90189.903
D 0705	1 N 4531		352-90189.903
D 0706	1 N 4531		352-90189.903
D 0707	1 N 4531		352-90189.903
D 0708	1 N 4531		352-90189.903
D 0709	1 N 4531		352-90189.903
D 0713	1 N 4531		352-90189.903
D 0714	1 N 4531		352-90189.903

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
D 0715	1 N 4531		352-90189.903
D 0716	1 N 4531		352-90189.903
D 0717	1 N 4531		352-90189.903
D 0718	1 N 4531		352-90189.903
D 0719	1 N 4531		352-90189.903
D 0720	1 N 4531		352-90189.903
D 0721	1 N 4531		352-90189.903
D 0722	SLR 34 URC 5	TAPE IN INDICATOR	353-90194.933
D 0726	1 N 4531		352-90189.903
D 0727	1 N 4531		352-90189.903
D 0728	1 N 4531		352-90189.903
D 0851	D 4 SBS 6		352-90194.965
D 0852	D 4 SBS 6		352-90194.965
D 0853	RK 44		352-90211.961
D 0854	RK 44		352-90211.961
D 0855	1 SS254		352-90104.978
D 0902	SS 1 J 4		352-90195.927
D 0903	1 N 4531		352-90189.903
D 0904	1 N 4531		352-90189.903
D 0908	SS 1 J 4		352-90195.927
D 0911	1 N 4531		352-90189.903
D 0912	SS 1 J 4		352-90195.927
D 0913	1 N 4531		352-90189.903
D 0914	SS 1 J 4		352-90195.927
D 0920	SS 1 J 4		352-90195.927
D 1001	ERA 81-004		352-90194.971
D 1531	1 N 4531		352-90189.903
D 1532	1 N 4531		352-90189.903
D 1701	1 N 4531		352-90189.903
D 1751	1 N 4531		352-90189.903
D 1752	1 N 4531		352-90189.903
D 1901	1 N 4531		352-90189.903
D 2501	1 N 4531		352-90189.903
D 2502	1 N 4531		352-90189.903
D 2503	1 N 4531		352-90189.903
D 2504	1 N 4531		352-90189.903
D 2531	1 N 4531		352-90189.903
D 2532	1 N 4531		352-90189.903
D 2551	ERA 81-004		352-90194.971
D 2552	1 N 4531		352-90189.903
D 2553	1 N 4531		352-90189.903
D 2851	1 SS 130		352-90125.940
D 2852	1 SS 130		352-90125.940
D 2853	1 SS 130		352-90125.940
D 2854	1 SS 130		352-90125.940
D 2861	1 SS254		352-90104.978
D 2865	ERA 81-004		352-90194.971
D 4701	1 SS 254		352-90115.914
D 4702	SS 1 J 4		352-90195.927

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
DG0701	BG-780 GK	MULTI DISPLAY	353-90194.917
ZD0701	HZS 6C-2		352-90136.906
ZD0703	HZS 6C-2		352-90136.906
ZD0801	HZS 30		352-90125.968
ZD0802	HZS 5 C1		352-90189.904
ZD0851	HZ 18-3		352-90122.937
ZD0852	HZS 4		352-90131.912
ZD0854	HZS 18-3		352-90199.975
ZD0855	HZS 6B 2		352-90194.973
ZD0901	HZS 6C-2		352-90136.906
ZD0903	HZS 3 B3		352-90194.916
ZD0904	HZS 11-A 2		352-90194.996
ZD1533	HZS 7C 3		352-90129.944
ZD1534	HZS 3 B1		352-90189.942
ZD2851	HZS 30-1		352-90194.935
ZD2852	HZS 11 B 3		352-90216.901
ZD2854	HZS 3 B1		352-90189.942
ZD2855	HZS 11 B 2		352-90194.958
ZD2856	HZ 16-3		352-90194.954
ZD4501	HZS 6C-2		352-90136.906
ZD4502	HZS 6C-2		352-90136.906
	SPULEN, LAUTSPRECHER / COILS, SPEAKERS		
BZ0701	SUMMER	BUZZER	272-90203.951
CP0354	VERZÖGER.LEITUNG 2H	DELAY LINE	291-90198.937
CP0355	VERZÖGER.LEITUNG 1H	DELAY LINE	291-90206.924
CP4702	VERZÖGERUNGSLEITUNG	DELAY LINE	291-90203.989
T 0401	LÖSCHOSZ.-SPULE (NACHVERTONUNG)	ERASE COIL(AUDIO DAB)	297-90195.914
T 0851	NETZTRAFO	TRANSFORMER,POWER	490-90213.977
T 0901	LÖSCHOSZ.-SPULE (VOLLSPURLÖSCHUNG)	ERASE COIL(FULL ERASE)	297-90195.933
	QUARZE	**QUARTZES**	
X 0351	4,433619 MHZ		385-90172.981
X 0601	3,58 MHZ		385-90195.929
X 0701	4,0 MHZ		385-90153.918
X 0702	32,768 KHZ		385-90130.901
X 0703	800,0 KHZ		385-90105.921
X 0901	4,19 MHZ		385-90195.948
X 1401	17,734475 MHZ		385-90141.911
X 1901	4,0 MHZ		385-90195.967
X 4701	12,0 MHZ		385-90194.948
X 4702	27,0 MHZ		352-90215.967
X 4704	4,43 MHZ		385-90193.992

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
	BUCHSEN	**JACKS**	
J 1701	KOPFHÖRER	PHONES JACK	323-90098.966
J 1751	S-VHS-EINGANG	S-VIDEO IN	323-90223.917
J 4501	DECODER(2.VCR-GERÄT)	DECODER (SECOND VR)	323-90196.969
J 4502	EURO-A/V	EURO-A/V	323-90196.931
J 4503	AUDIO-AUSGANG	AUDIO OUTPUT	323-90206.962
J 4504	S-VIDEO-AUSGANG	S-VIDEO-OUTPUT	323-90223.936
	SCHALTER	**SWITCHES**	
S 0141	AUFNAHME-SPERRE	TAB SWITCH	467-90125.973
S 0142	CASSETTENSCHALTER,AUF-/ABWÄRTS/CST UP/DOWN SW		467-90125.974
S 0701	RESET	RESET	467-90098.945
S 0702	CASSETTENAUSWURF	EJECT	467-90098.945
S 1701	TONSPUR-WAHL	MIX ON/OFF	469-90193.955
S 1702	BILDKONTUREN	NORM SOFT/HARD	467-90194.955
S 2503	FERNBEDIENUNG VTR/TV	REMOTE VTR/TV	469-90114.923
	POTENTIOMETER	**POTENTIOMETERS**	
RT0201	470R	S-VHS RECORDING LEVEL	375-90125.931
RT0202	470R	CCD OUTPUT VIDEO LEVEL	375-90125.931
RT0351	4K7	REC CHROMA LEVEL	375-90125.930
RT0401	220K	AUDIO BIAS LEVEL	375-90130.936
RT0501L) RT0501R)	10K	L/R-CH CARRIER FREQUENCY	375-90193.977
RT0502L) RT0502R)	47K	L/R-CH HI FI AUDIO PB LEVEL	375-90193.996
RT0601	220K	HEAD SWITCHING POINT	375-90130.936
RT1003	4K7-B	CHROMA OUTPUT LEVEL	375-90081.980
RT1004	1K	LUMINANCE(Y)OUTPUT LEVEL	375-90211.904
RT1201	220R	SKEW CORRECTION CCD LEVEL	375-90211.923
RT1202	220R	SKEW CORRECTION CCD LEVEL	375-90211.923
RT1203	220R	SKEW CORRECTION CCD LEVEL	375-90211.923
RT1204	47K	SKEW DETECTION VCO	375-90125.933
RT1401) RT1421)	100K	AFC	375-90081.981
RT2201	470R	SECAM DETECT.LEVEL	375-90183.985
RT2301	22K	E-E VIDEO OUTPUT LEVEL	375-90211.942
RT2302	22K	S-HVS PLAYBACK LEVEL	375-90211.942
RT2303	22K	VHS PLAYBACK LEVEL	375-90211.942
RT2531	4K7	E-E VIDEO OUTPUT LEVEL	375-90125.930
RV1701	20K	TONAUSSTEUERUNG RECORD LEVEL	375-90194.903
RV1702	10K	KOPFHÖRER-LAUTSTÄRKE HEADPHONE VOLUME	375-90194.914

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
	WIDERSTÄNDE	**RESISTORS**	
R 0871	10R 5% 1/4W SI		366-90119.969
R 0877	1M 5% 0,5W		367-90222.961
R 1052	4,3K 5% 0,1W		367-90222.999
R 1534	47K 1% 1/8W		367-90205.966
R 1536	33R 1/8W		367-90205.985
R0515R	8,2K 1/8W		367-90197.942
TH1201	10K		372-90146.960
TH1202	10K		372-90146.960
TH1203	10K		372-90146.960
TH2302	600R		372-90147.908
	KONDENSATOREN	**CAPACITORS**	
C 0284	220 NF 50V		360-90143.929
C 0285	1000 UF 6,3V		360-90147.994
C 0357	1000 UF 6,3V		360-90137.935
C 0413	470 NF 50V		360-90143.966
C 0416	0,33 UF 50V		360-90198.934
C 0417	470 NF 50V		360-90143.966
C 0507	220 NF 50V		360-90143.929
C 0535	0,33 UF 50V		360-90198.934
C 0618	0,47 UF 50V		360-90207.948
C 0620	470 NF 50V		360-90143.966
C 0707	47000UF 5,5V		360-90166.949
C 0851	2200 UF 50V		360-90207.967
C 0853	1500 UF 35V		360-90222.904
C 0856	3300 UF 25V		360-90222.923
C 0858	2200 UF 25V		360-90222.942
C 0875	0,1 UF 250V		358-90214.959
C 4703	47000UF 5,5V		360-90166.949
	SICHERUNGEN	**FUSES**	
FU0851	T 2,0 A		380-37597
FU0852	T 1,6 A		380-14576
FU0853	T 1,0 A		380-42588
	VERBINDUNGSLEITUNG	**CONNECTING CABLES**	
0135	KOAXIALKABEL	KOAX CABLE	169-90189.963
0119	NETZKABEL	POWER CORD	170-90196.905
	GEHÄUSE UND MONTAGETEILE / CABINET MOUNTING		
0101	GEHÄUSE-OBERTEIL	COVER,TOP	753-90194.974
0102	BODENPLATTE	COVER,BOTTOM	777-90213.996
0103	POLSTER (FUSS,HINTEN)	CUSHION (FOOT,BACK)	410-90206.993
0104	FRONTBLENDE	PANEL,FRONT	704-90214.933
0105	CASSETTENKLAPPE	DOOR,CASSETTE	568-90214.952
0108	KNOPF-EINHEIT,KPL.	KNOB-UNIT,ASSY	681-90198.965
0109	MAGNETVERSCHLUSS	MAGNETIC LOCKING	303-90207.949

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
0110	FUSS	FOOT	783-90214.978
0111	ABDECKUNG/RÜCKSEITE	PANEL,REAR	753-90214.971
0113	ABDECKUNG	PIECE,FRAME	568-90215.915
0116	SICHERUNGSABDECKUNG	COVER,FUSE	568-90152.918
0118	KNOPF, TONAUSSTEUERUNG	KNOB,AUDIO LEVEL	681-90195.987
0119	NETZKABEL	POWER CORD	170-90196.905
0120	HALTEKLAMMER	HOLDER	564-90206.937
0121	ABDECKUNG	PANEL,DOOR	568-90215.908
0122	SCHARNIER	HINGE	573-90213.905
0123	LAGERWINKEL	BRACKET	645-90206.994
0125	KNOPF TONSPUREN BILDKONTUREN	KNOB MIX OFF-ON NORM HARD-SOFT	681-90193.981
0126	BEDIENPANEL	SWITCH,DOOR	469-90215.934
0127	DÄMPFUNGSEINHEIT	DAMPING UNIT	568-90194.937
0129	KNOPF,KOPFHÖRER-LAUTST.	KNOB PHONES LEVEL	681-90194.956
0131	BUCHSENABDECKUNG	COVER,JACK	568-90215.927
0132	LÜFTUNGSGITTER	VENTILATION GRID	568-90194.975
0134	TUNER/ZF-EINHEIT	TUNER IF BLOCK	260-90209.966
0144	HALTER	HOLDER	602-90215.991
0145	HALTER	HOLDER	563-90216.909
0901	SCHRAUBE SCHW. 3X12	SCREW	438-90080.949
0902	SCHRAUBE SCHWARZ 3X8	SCREW	438-90080.951
	BEDIENUNGSKNÖPFE	**BUTTONS**	
0108	KNOPF-EINHEIT,KPL.	KNOB-UNIT,ASSY	681-90198.965
0118	KNOPF, TONAUSSTEUERUNG	KNOB,AUDIO LEVEL	681-90195.987
0125	KNOPF TONSPUREN BILDKONTUREN	KNOB MIX OFF-ON NORM HARD-SOFT	681-90193.981
0129	KNOPF,KOPFHÖRER-LAUTST.	KNOB PHONES LEVEL	681-90194.956
	KASSETTENLAUFWERKTEILE / DRIVE MECHANISM		
0204	A/W-KOPF	AUDIO HEAD	281-90193.938
0205	DRUCKFEDER	COMPRESSION SPRING	726-90080.989
0206	DREHFEDER	TORSION SPRING	727-90132.937
0207	MUTTER	NUT	430-90132.926
0208	CAPSTAN-MOTOR	MOTOR,CAPSTAN	269-90195.912
0209	ZUGFEDER	TENSION SPRING	725-90197.911
0210	WICKELTELLER	TABLE,REEL	612-90209.985
0211	SCHEIBE 3X7X0,2	POLYSLIDER WASHER	445-90131.979
0212	AUFWICKELTELLER	REEL,TAKE UP	612-90194.959
0214	ANDRUCKROLLE MIT HEBEL	ARM,PRESSER ROLLER	633-90194.978
0215	MONTAGEBRUECKE	BLOCK	552-90213.924
0216	BASISPLATTE	BASE PLATE	547-90197.949
0217	EINFÄDELZAHNRAD	GEAR,LOADING(L)	563-90193.970
0218	EINFÄDELZAHNRAD	GEAR,LOADING(R)	563-90193.989
0219	BANDFÜHR.SCHLITTEN(IN)	GUIDE ROLLER(IN)	619-90195.915
0220	BANDFÜHRUNGSROLLE	ROLLER,GUIDE	615-90195.988
0221	BANDFÜHR.SCHLITTEN(OUT)	GUIDE ROLLER OUT	619-90213.943

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
0223	LÖSCHKOPF	HEAD FULL ERASE	281-90140.958
0224	HEBEL	BRAKE	563-90196.906
0225	BANDFÜHRUNGSSTIFT	GUIDE,TAPE	640-90140.942
0226	ZUGFEDER	TENSION SPRING	725-90130.969
0227	BREMSBAND	BAND,TENTION	565-90197.968
0229	ZUGFEDER	TENSION SPRING	725-90168.939
0230	HEBEL	BRACKET	563-90194.926
0232	ZUGFEDER	TENSION SPRING	725-90132.916
0233	AUSGLEICHSROLLE KPL.MIT HEBEL/ARM,IMPEDANCE		615-90198.905
0234	BANDZUGHEBEL	ARM	563-90198.924
0235	EINFÄDELMOTOR,KPL.	BLOCK,LOADING	269-90206.919
0242	DREHFEDER	TORSION SPRING	727-90196.994
0245	ZUGFEDER	TENSION SPRING	725-90207.913
0247	ZUGFEDER	TENSION SPRING	725-90207.951
0251	ZUGFEDER	TENSION SPRING	725-90132.945
0253	HEBEL	ARM	563-90198.906
0254	ZUGFEDER	TENSION SPRING	725-90213.962
0255	BANDFÜHRUNGSSTIFT	TAPE GUIDE BUSHING	640-90129.996
0256	ZAHNRAD	GEAR WHEEL	616-90206.901
0257	ZAHNRAD	GEAR WHEEL	616-90196.919
0258	ZAHNRAD	GEAR WHEEL	616-90196.938
0259	ZAHNRAD	GEAR WHEEL	616-90206.939
0260	SICHERUNGSSCHEIBE	WASHER	448-90196.976
0261	VORVERSTÄRKER	PRE AMPLIFIER	398-90215.946
0264	BREMSHEBEL	BRAKE	563-90196.926
0265	HEBEL	BRAKE,SUB	563-90196.945
0266	ZUGFEDER	TENSION SPRING	725-90197.989
0273	HEBEL MIT REINIGUNGSROLLE/LEVER WITH PULLEY		563-90196.952
0275	SICHERUNGSSCHEIBE	WASHER	448-90197.908
0277	PLATTE MIT HEBEL	BRACKET	547-90207.914
0278	HEBEL	ARM	563-90207.933
0279	HEBEL	ARM	563-90207.952
0280	ZUGFEDER	TENSION SPRING	725-90132.916
0281	STEUEREINHEIT	CONTROL UNIT	547-90215.929
0283	HEBEL	ARM	563-90207.971
0284	SCHALTER	SWITCH	467-90215.965
0302	KUPPLUNGSEINHEIT	CLUTCH UNIT	552-90214.903
0303	RIEMEN	DRIVE BELT	407-90196.983
0304	ZWISCHENRAD,VORM.	IDLER WHEEL	611-90205.946
0305	ZAHNSTANGE	TOOTHED ROD	617-90195.958
0402	GETRIEBEBLOCK	GEARING	269-90140.978
0407	HEBEL	LEVER	563-90140.955
0409	ZUGFEDER	TENSION SPRING	725-90134.901
0412	CASSETTENHALTERUNG-MONTAGESATZ / HOLDER		602-90197.901
0418	ZUGFEDER	TENSION SPRING	725-90158.923
0421	ZUGFEDER	TENSION SPRING	725-90158.942
0422	BLATTFEDER	PLATE SPRING	732-90158.961
0423	FRONTHALTERUNG	HOLDER,FRONT	602-90153.944
0424	SYNCHRONACHSE,KPL.	SHAFT,ASSY	624-90140.972

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
0425	CHASSISHALTERUNG	HOLDER	602-90168.908
0427	ZUGFEDER	TENSION SPRING	725-90131.903
0501	KOPFRAD MIT TROMMEL	CYLINDER,UPPER ASSY	613-90215.984
0502	MOTOR	MOTOR,CYLINDER	269-90216.902
0503	MASSEBÜRSTE	BRUSH ASSY.	309-90153.913
0961	GEWINDESTIFT	THREADED PIN	439-90131.980
	DRUCKSACHEN	**PRINTED MATTERS**	
	BEDIENUNGSANLEITNG	OPERATING INSTRUCTIONS	233-19741
	SERVICEANLEITUNG	SERVICE DOKUMENTATION	230-90204.990
	GERÄTE-BEIPACK	**SET SUPPLEMENT**	
	ALKALI-BATTERIE 1,5V	BATTERY ALKALINE	280-15982 (3X)
	KOAX-ANTENNENKABEL	COAXIAL CABLE	169-90204.984
	AUDIO-VERB.LEITUNG (CINCHSTECKER)	AUDIO CONNECTING CABLE (CINCH)	169-90114.947
	IR-GEBER FB 875	REMOTE CONTROLLER	263-85086.L00
	GERÄTE-ZUBEHÖR(ZUKAUF)	**PARTS TO BE ORDET SEPARATE**	
	SYNCHRONKABEL SL70	SYNCHRONOUS CABLE	169-85126.000
	DIGITAL-LINK-SET	DIGITAL-LINK-SET	291-84630.L
	VERPACKUNGSMATERIAL	**PACKING MATERIAL**	
	PACKSCHALENSATZ	POLYFOAM PACK.PARTS	252-90216.903
	VERPACKUNGSKARTON	CARTON BOX	246-90213.979
	ERSATZTEILE FÜR FERNBEDIENUNG / PARTS FOR TRANSMITTER		
0751	KLAPPE	COVER	756-90210.937
0752	TASTENMATTE,OBEN	SHEET,RUBBER	309-90210.956
0753	ABDECKUNG	HOLDER,BUTTON	568-90210.975
0754	GEHÄUSE-OBERTEIL	CASE,UPPER	756-90210.994
0755	KNOPF	BUTTON	681-90211.912
0756	KNOPF	BUTTON	681-90214.922
0758	KNOPF	BUTTON	682-90211.931
0759	KNOPF	BUTTON	684-90211.969
0760	KNOPF	BUTTON	682-90211.988
0761	LED-ANZEIGEFENSTER	FILTER,LED	666-90213.906
0762	TASTENMATTE,UNTEN	SHEET,RUBBER	309-90213.925
0764	IR-FENSTER	PLATE/WINDOW	666-90213.944
0765	BATTERIEFACHDECKEL	CASE,BATTERY	756-90213.963
0766	GEHÄUSE-UNTERTEIL	CASE,LOWER	756-90210.938
0767	SCHRAUBE	SCREW	438-90210.957
0768	SCHRAUBE	SCREW	438-90210.976
0769	SCHRAUBE	SCREW	438-90210.995

ARTIKEL: 69555 VIDEO-RECORDER OC 985 H

POS.NR. ITEMNMB	BESTELL-BEZEICHNUNG DESCRIPTION		BESTELL-NUMMER LIST-PART-NMB
	MESSMITTEL, SERVICE-HILFSWERKZEUGE/SERVICING JIGS AND TOOLS		
0001	BANDZUG-MESSCASSETTE	BACK TENSION METER	286-90072.927
0002	TESTCASSETTE >PAL<	ALLIGNMENT TAPE MH-2	486-90072.933
0003	HAUPTMESSLEHRE	MASTER PLANE	286-90130.930
0004	DREHMOMENT-MESSER	TORQUE GAUGE	286-90072.929
0005	ADAPTER FÜR DREHMOMENTMESSER	TORQUE GAUGE ADAPTOR	286-90072.930
0006	WICKELTELLER-HÖHENMESSLEHRE	REEL DISK HEIGHT JIG	286-90150.983
0007	IMBUSSCHLÜSSEL 1,5MM	HEXAGONAL WRENCH	286-90150.967
0007	INBUSSCHLÜSSEL 0,9MM	HEXAGONAL WRENCH	286-90152.980

Notizen / Notes / Annotazioni:

Ersatzteilbestellung:	
Btx:	*50705990#
Fax:	09261/99413
Telefon:	09261/99422

Reparaturhilfen:	
Btx:	*507058140#
Btx-Hotline:	*50705819#
Telefon-Hotline:	09261/99700

Hinweis! *Ersatzteilbestellung nur über die Kundendienst-Zentrale 8640 Kronach*

LOEWE.-Vertragswerkstätten

1000	VHF Fernsehdienst GmbH Ulrich Capito Gainauer Straße 18 Berlin 30 Tel: 030/2133006 Fax: 030/2133007	**5000**	EWS Elektronik-Service Dipl.-Ing. Fred Wenzel Auf der Jüchen 2 Köln 80 Tel: 0221/6801585 Fax: 0221/6801588	**0-2033**	Gerhard Schubert Lange Reihe 38B Loitz/Mecklenburg Tel: 0037/9908/577
2000	Michael Hinz Audio-Video-TV-Service Billstraße 33 Hamburg 26 Tel: 040/7898989 Fax: 040/7898419	**5400**	Hans Krempl / Haustechnik GmbH August-Horch-Straße 14 Koblenz Tel: 0261/8909-0 Btx: 0261/83074 Fax: 0261/83074	**0-5020**	Audio-Video-Elektronik Service GmbH Lange Brücke 35 Erfurt Tel: 0037/61/26285
2090	Video Electronic Service Inh. Gerhard Will Ilmer Moorweg 32 Winsen/Luhe Tel: 04171/72074 Fax: 04171/7838	**6200**	VAD Video- und Audio-Dienst Ostring 7 Wiesbaden-Nordenstadt Tel: 06122/12054, 12055 Fax: 06122/15603	**0-7022**	HVS Lösbar GmbH Coppistraße 81 Leipzig Tel: 0037/41/592127 Fax: 0037/41/41127722
3000	DW-Service GmbH Haltenhoffstraße 52-54 Hannover 1 Tel: 0511/714073 Fax: 0511/7000997	**7257**	Pavlek Video & Femseh-Service Max-Eydt-Straße 11 Ditzingen-Hirschlanden Tel: 07156/39467, 39889 Fax: 07156/3680	**0-8029**	Elektro Dresden-West Gesellschaft für Elektronik GmbH Gottfried-Keller-Straße 87 Dresden Tel: 0037/51/43415 7
3501	Fernseh-Eildienst K e s s l e r Veckerhagener Straße 58 Fuldatal 1 Tel: 0561/813001, 813002 813003	**8000**	Fernseh-Service W. Appel - J. Drössler Lerchenstraße 8 München 50 Tel: 089/3517462, 3517467 Btx: 089/3517467		
4600	HVS Lösbar GmbH Planetenfeldstr. 24-30 Dortmund 1 Tel: 0231/178000, 170000 Fax: 0231/179090	**8500**	Norbert Nickl KopernikusstraBe 21/23 Nürnberg 40 Tel: 0911/4466460 Btx: 0911/4466460 Fax: 0911/4466414		

LOEWE.-Werkvertretungen

8500	Fa. Walter Gehrmann Kupernikusstraße 21/23 Nürnberg 40 Tel: 0911/45645 Btx: 0911/45645 Fax: 0911/457270				

LOEWE.-Niederlassungen

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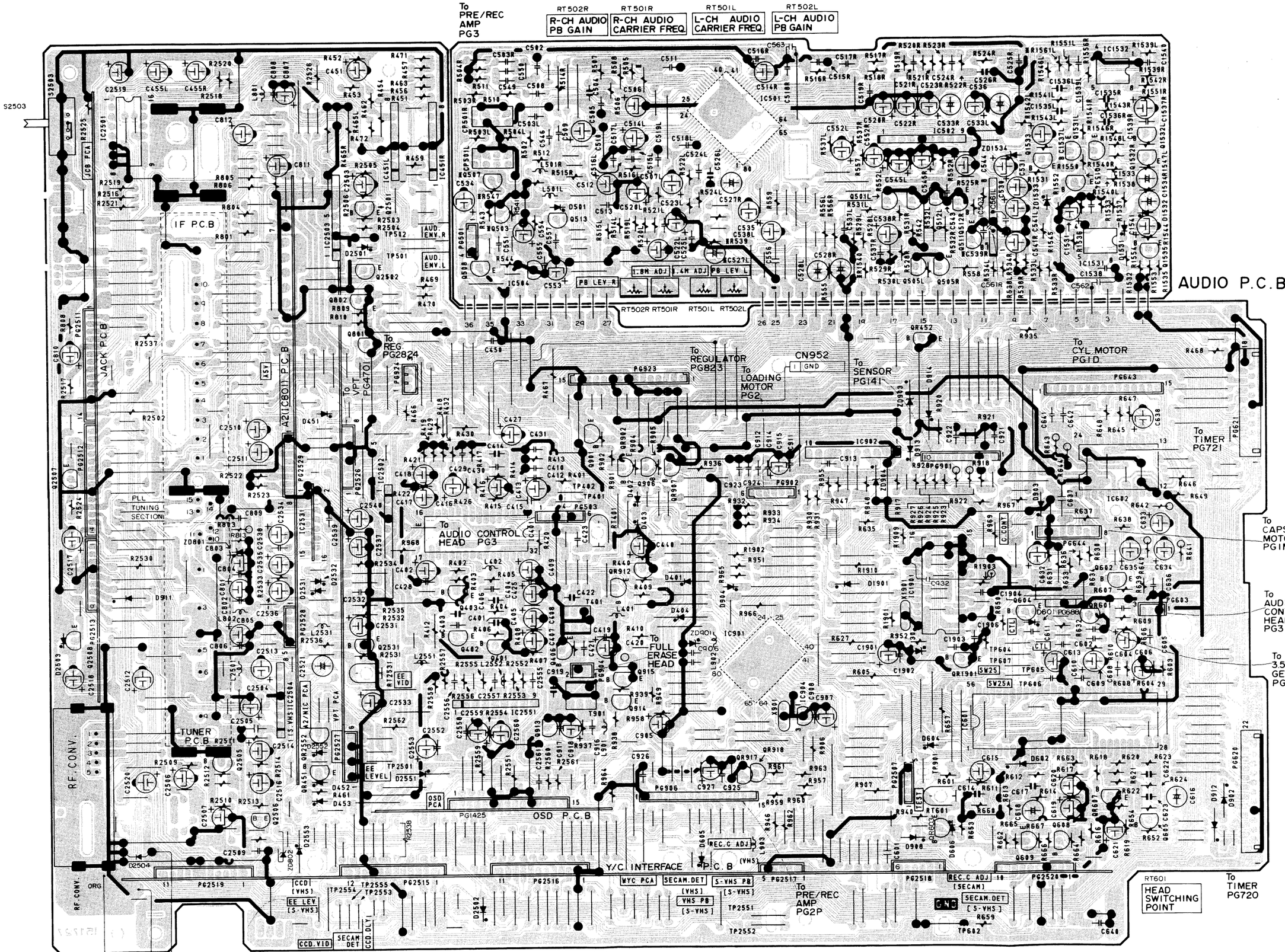
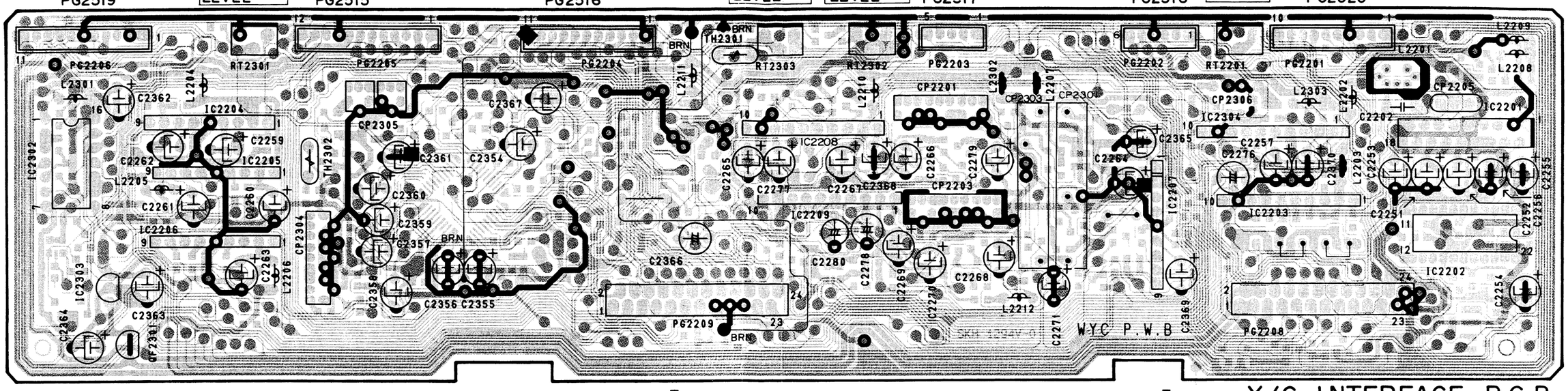
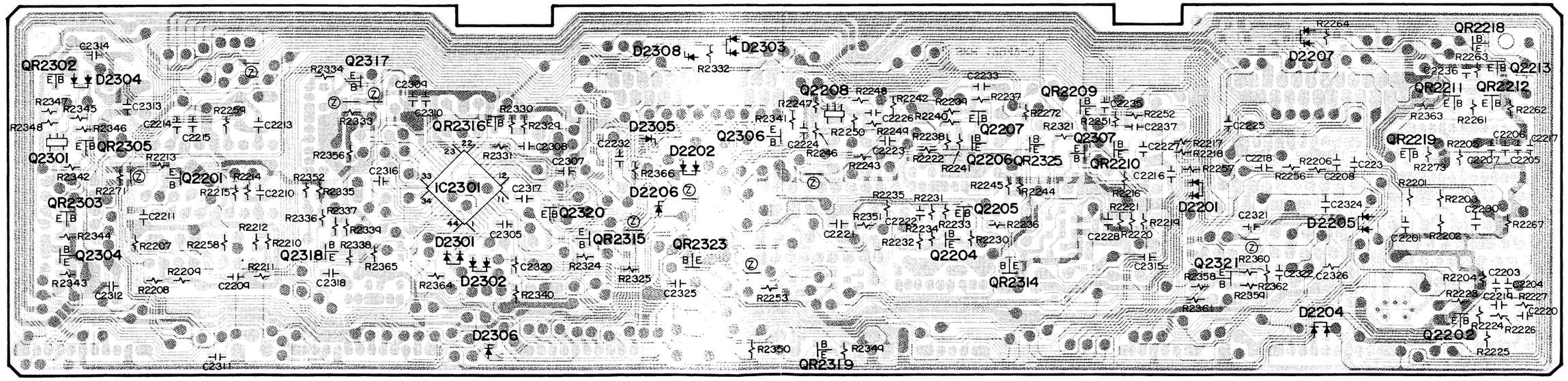

To PRE/REC AMP PG3
RT502R R-CH AUDIO PB GAIN
RT501R R-CH AUDIO CARRIER FREQ
RT501L L-CH AUDIO CARRIER FREQ.
RT502L L-CH AUDIO PB GAIN
AUDIO P.C.B
S2503
JACK P.C.B
IF P.C.B
A2(IC801) P.C.B
PLL TUNING SECTION
TUNER P.C.B
RF. CONV.
VPT P.C.B
Y/C INTERFACE P.C.B
OSD P.C.B
MAIN P.C.B
To REG. PG2824
To VPT PG4701
To REGULATOR PG823
To LOADING MOTOR PG2
To SENSOR PG141
To CYL MOTOR PG1D
To TIMER PG721
To CAPSTAN MOTOR PG1M
To AUDIO CONTROL HEAD PG3
To 3.58MHz GEN PG1688
To AUDIO CONTROL HEAD PG3
To FULL ERASE HEAD
To PRE/REC AMP PG2P
To TIMER PG720
HEAD SWITCHING POINT
CN952
CN2540
To JACK CN4540
CN2592 To CHASSIS GND
CN991 To CHASSIS GND
RT2531 E-E VIDEO OUTPUT LEVEL
RT401 AUDIO BIAS LEVEL
1.8M ADJ
1.4M ADJ
PB LEV L
PB LEV R
REC.C ADJ
REC.C ADJ [SECAM]
SECAM.DET
S-VHS PB
VHS PB
EE LEV [S-VHS]
CCD.VID
CCD DLY
SECAM DET
AUD. ENV.R
AUD. ENV.L
OSD PCA
Y/C PCA
RF.CONV. ORG


To MAIN PG2519
RT2301 E-E VIDEO OUTPUT LEVEL
To MAIN PG2515
To MAIN PG2516
RT2303 VHS PLAYBACK LEVEL
RT2302 S-VHS PLAYBACK LEVEL
To MAIN PG2517
To MAIN PG2518
RT2201 SECAM DETECT. LEVEL
To MAIN PG2520
To Y/CHROMA PG202
To Y/CHROMA PG201
W.Y.C P.W.B
Y/C INTERFACE P.C.B


NOTE : MARK "Ⓩ" IS LEADLESS(CHIP) JUMPER.
Y/C INTERFACE P.C.B

To
Y/C
INTERFACE
PG2208

RT351
REC
CHROMA
LEVEL

RT1204
SKEW
DETECTION
VCO

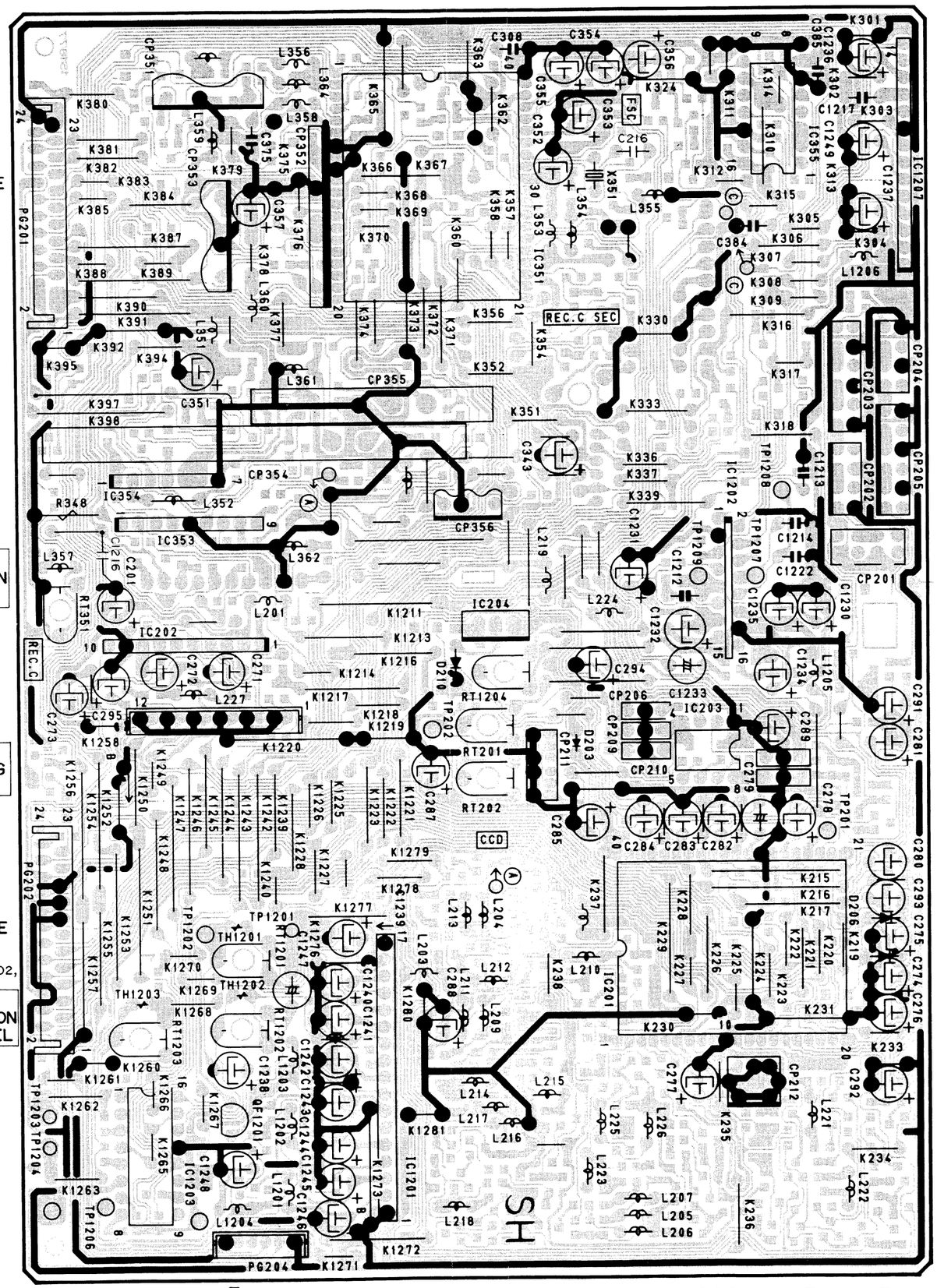
To
Y/C
SEPARATE
PG1001

RT201
S-VHS
RECORDING
LEVEL

RT202
CCD
OUTPUT
VIDEO
LEVEL

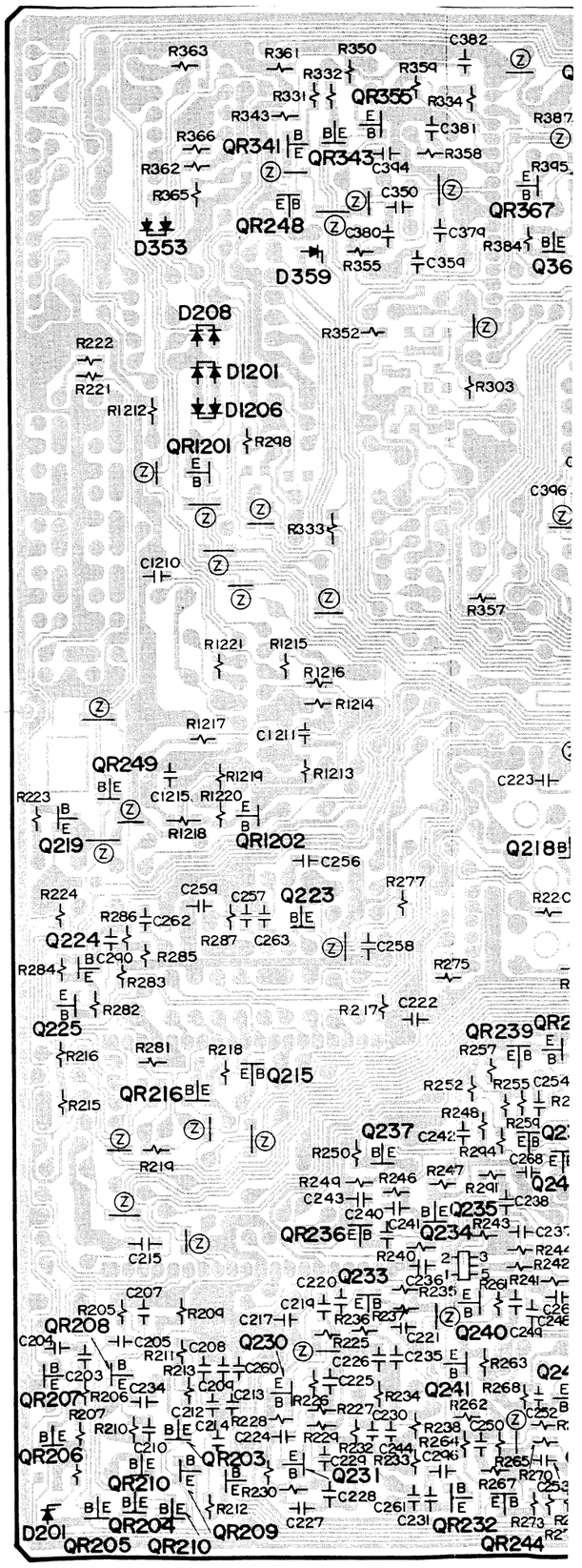
To
Y/C
INTERFACE
PG2209

RT1201,RT1202,
RT1203
SKEW
CORRECTION
CCD LEVEL

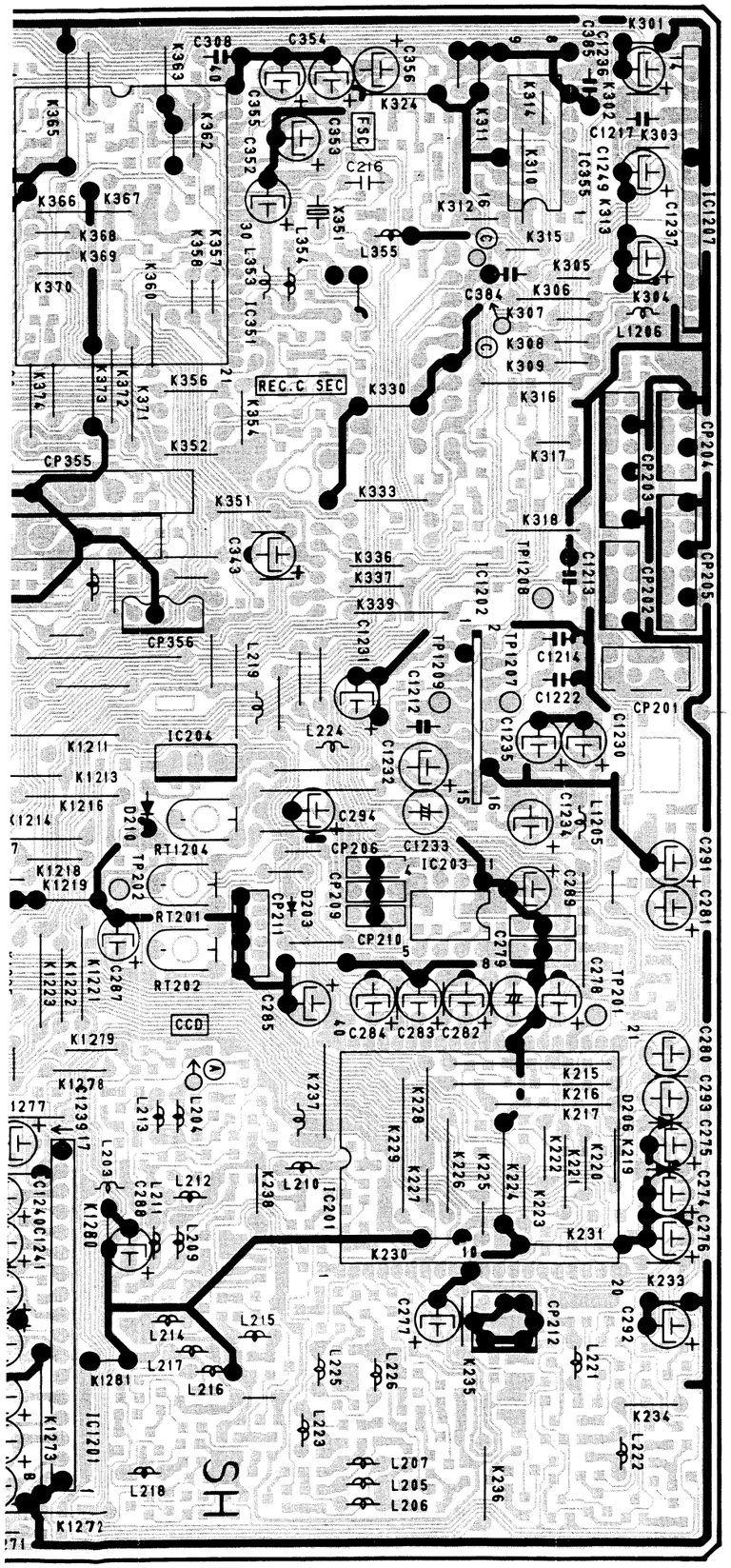


To
MAIN
PG2517

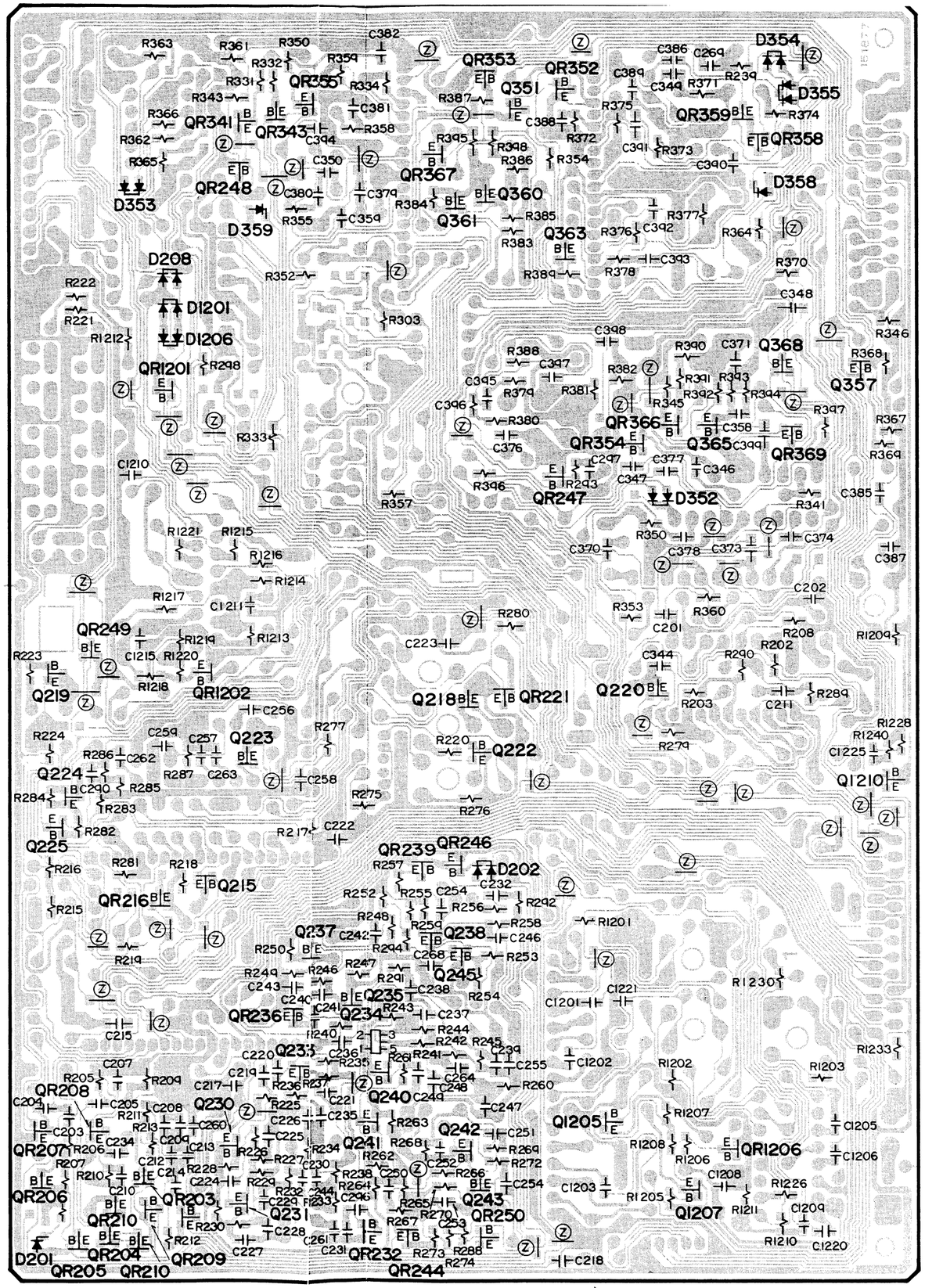
Y/CHROMA P.C.B



NOTE : MARK "Ⓩ" IS LEADLESS(CHIP) JUMPER.

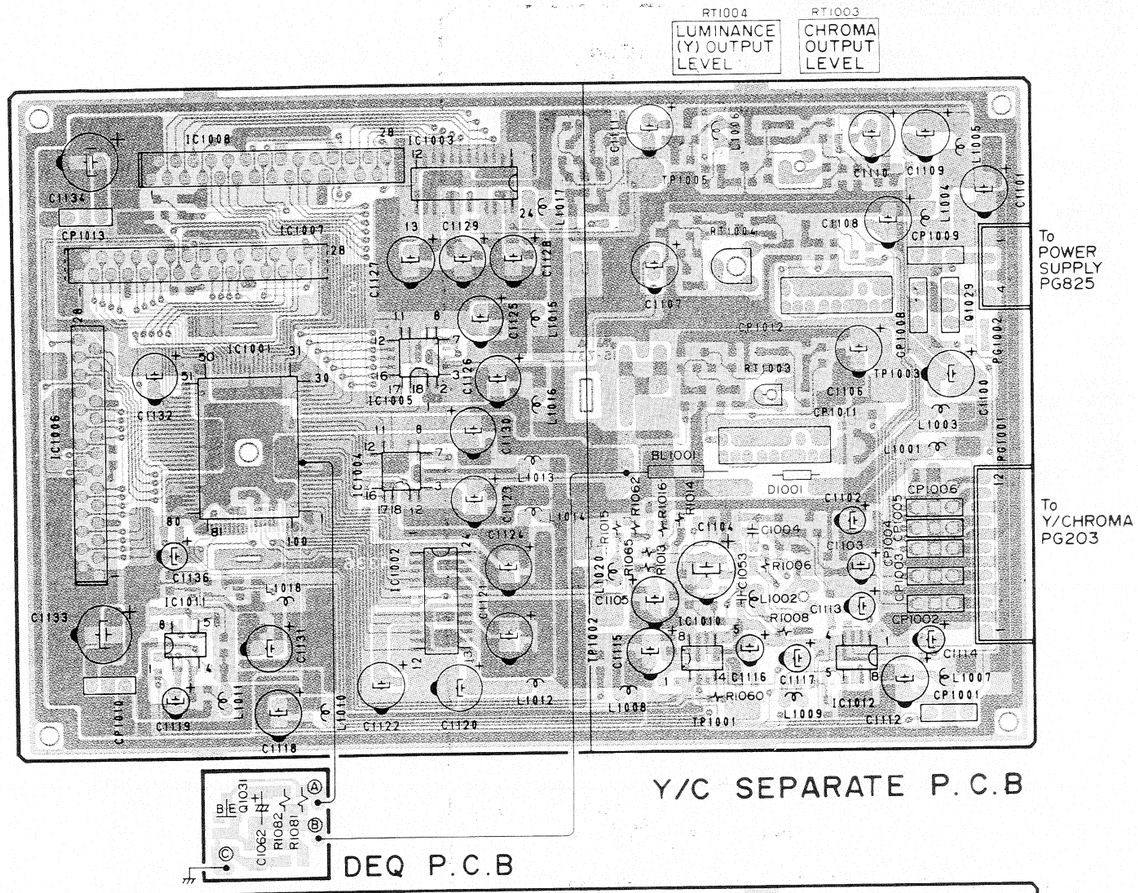


Y/CHROMA P.C.B



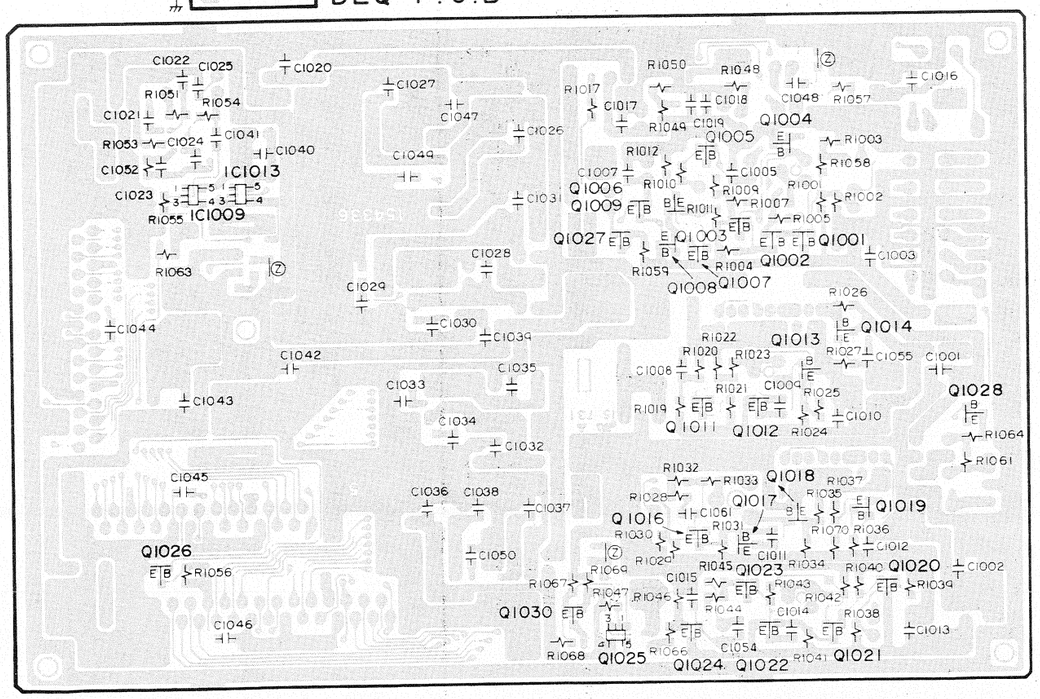
NOTE : MARK "Ⓩ" IS LEADLESS(CHIP) JUMPER.

Y/CHROMA P.C.B



Y/C SEPARATE P.C.B

DEQ P.C.B



NOTE. MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

Y/C SEPARATE P.C.B

SERVICE MANUAL ABBREVIATION LIST

A

A.DUBB	Audio Dub.
ACC	Automatic Colour Control
ACK	Automatic Colour Killer
ADD	Adder
AFC	Automatic Frequency Control
AGC	Automatic Gain Control
ALC	Automatic Level Control
ASBL	Assemble (Phase Matching
APC	Automatic Phase Control
AUX	Auxiliary

B

BATT	Battery
BG	Burst Gate
BGP	Burst Gate Pulse
BH	Power Supply for Selecting VHF High Band
BL	Power Supply for Selecting VHF Low Band
BPF	Band-pass Filter
BS	Power Supply for Selecting VHF Super Band
BU	Power Supply for Selecting UHF Band
BUF	Buffer Amplifier

C

C	Chroma
C.FG/CFG	Capstan Frequency Generator
C.MEMORY	Counter Memory
C.PAUSE	Camera Pause
C.RESET	Counter Reset
C.REVERSE	Count Reverse
C.SYNC	Composite Synchronizing Signal
C/R	Capacitor/Resistor
CATV	Cable TV
CAPST	Capstan
CCD	Charge Coupled Device
CH	Channel
CHAR	Character
COM	Common
COMP-EXP	Compressor-Expander
COMP	Comparator
COMPE	Compensator
COMP	Composite
COUNT	Counter
CST	Cassette
CTL	Control Track Pulse
CYL	Cylinder

D

D/A	Digital to Analog
DEEMPH	Deemphasis
DEMOD	Demodulator
DET	Detector
DISP	Display
DL	Delay Line
DN	Down
DO	Dropout
DOC	Dropout Compensator

E

E-E	Electronic-to-Electronic
EA-ROM	Electrically Alterable Read Only Memory
EMPH	Emphasis
EQ	Equalizer
EXT	External

F

FF	Flip Flop
F.FWD	Fast Forward
FG	Frequency Generator
FM	Frequency Modulation
FRAME ADV./F.ADV.	Frame Advance
fsc	Sub Carrier Frequency
FWD	Forward.

G

GEN	Generator
GND	Ground

H

HD	Horizontal Drive
Hi-Fi	High Fidelity
HPF	High-pass Filter
HPL	High-pass Limiter
HSS	Horizontal Sync. Separator

I

I/O	In/Out
IF	Intermediate Frequency
INDI	Indicator
INT	Internal
INV	Inverter
IR	Infrared Rays
IRT	Instant Recording Timer

L

LCD	Liquid Crystal Display
LIN	Linear
LM	Loading Motor
LOG	Logarithm
LPF	Low-pass Filter
L/R	Left/Right
LP	Long Play

M

M.CUT	Monitor Cut
M.STATE	Mechanism State
M.STOP	Memory Stop
MEM	Memory
MIX	Mixer
MM	Monostable Multivibrator
MOD	Modulator
MPX	Multiplex

N

NF	Negative Feed Back
NORM	Normal
NR	Noise Reduction

O

OSC	Oscillator
OSD	On-Screen Display

P

PB/PLAY	Playback
PIF	Picture Intermediate Frequency
PLL	Phase Locked Loop
POS	Positive
POWER CONT	Power Control
PROG	Programme
PROTECT	Protector
PWM	Pulse Width Modulation

R

REC	Record
RECT	Rectifier
REF	Reference
REG	Regulator
REV	Reverse
REW	Rewind
RF	Radio Frequency
RAM	Random Access Memory
ROM	Read Only Memory

S

S/H	Sample and Hold
S.REEL	Supply Reel Sensor
S.TRACK	Slow Tracking
S-VHS	Super VHS
SAW	Sawtooth
SEP	Separator
SIF	Sound Intermediate Frequency
SP	Standard Play
SRCH	Search
SRV	Servo
SW 25Hz	Head Switching Pulse
SYNC	Synchronizing Signal
SYS.CON	System Control

T

T/L	Tuner/Line
T.BRAKE	Take-up Brake
TuP	Timer Microprocessor
T.REEL	Take-up Reel Sensor
T.RESET	Timer Reset
TP	Test Point
TRS	Transfer
TU-uP	Tuning Microprocessor

U

U/D	Up/Down
UNI	Unified

V

V-REF	Voltage Reference
V.DRV	Vertical Drive Pulse
V.DUB	Video Dub
VCO	Voltage Controlled Oscillator
VHS	Video Home System
Vss	Voltage Super Source
VOL	Volume
VSS	Vertical Sync. Separator
VT	Tuning Voltage
VT-U	Tuning Voltage-UHF
VT-V	Tuning Voltage-VHF

Y

Y/C	Luminance/Chrominance

DIGITAL

A

ADC B-Y	
ADC R-Y	
ADC Y	
ADRS	

C

CAS	
C.BLANK	

D

DRAM	
DEMPX	
DWC	
DT/OE	
D.REF 25	
D.SW	

I

INC	

M

MEM	
MEM VIDE	
MEM SW	
MEM ON	
MPX	
MPX VIDE	

SERVICE MANUAL ABBREVIATION LIST

A

A.DUBB ..... Audio Dub.
ACC ..... Automatic Colour Control
ACK ..... Automatic Colour Killer
ADD ..... Adder
AFC ..... Automatic Frequency Control
AGC ..... Automatic Gain Control
ALC ..... Automatic Level Control
ASBL ..... Assemble (Phase Matching
APC ..... Automatic Phase Control
AUX ..... Auxiliary

B

BATT. ..... Battery
BG ..... Burst Gate
BGP ..... Burst Gate Pulse
BH ..... Power Supply for Selecting VHF High Band
BL ..... Power Supply for Selecting VHF Low Band
BPF ..... Band-pass Filter
BS ..... Power Supply for Selecting VHF Super Band
BU ..... Power Supply for Selecting UHF Band
BUF. ..... Buffer Amplifier

C

C ..... Chroma
C.FG/CFG ..... Capstan Frequency Generator
C.MEMORY ..... Counter Memory
C.PAUSE ..... Camera Pause
C.RESET ..... Counter Reset
C.REVERSE ..... Count Reverse
C.SYNC ..... Composite Synchronizing Signal
C/R ..... Capacitor/Resistor
CATV ..... Cable TV
CAPST. ..... Capstan
CCD ..... Charge Coupled Device
CH ..... Channel
CHAR. ..... Character
COM. ..... Common
COMP-EXP ..... Compressor-Expander
COMP. ..... Comparator
COMPE ..... Compensator
COMP. ..... Composite
COUNT. ..... Counter
CST ..... Cassette
CTL ..... Control Track Pulse
CYL. ..... Cylinder

D

D/A ..... Digital to Analog
DEEMPH. ..... Deemphasis
DEMOD. ..... Demodulator
DET ..... Detector
DISP. ..... Display
DL ..... Delay Line
DN ..... Down
DO ..... Dropout
DOC ..... Dropout Compensator

E

E-E ..... Electronic-to-Electronic
EA-ROM ..... Electrically Alterable Read Only Memory
EMPH ..... Emphasis
EQ ..... Equalizer
EXT. ..... External

F

FF ..... Flip Flop
F.FWD ..... Fast Forward
FG ..... Frequency Generator
FM ..... Frequency Modulation
FRAME ADV./F.ADV. Frame Advance
fsc ..... Sub Carrier Frequency
FWD ..... Forward.

G

GEN ..... Generator
GND ..... Ground

H

HD ..... Horizontal Drive
Hi-Fi ..... High Fidelity
HPF ..... High-pass Filter
HPL ..... High-pass Limiter
HSS ..... Horizontal Sync. Separator

I

I/O ..... In/Out
IF ..... Intermediate Frequency
INDI. ..... Indicator
INT. ..... Internal
INV. ..... Inverter
IR ..... Infrared Rays
IRT ..... Instant Recording Timer

L

LCD ..... Liquid Crystal Display
LIN. ..... Linear
LM ..... Loading Motor
LOG. ..... Logarithm
LPF ..... Low-pass Filter
L/R ..... Left/Right
LP ..... Long Play

M

M.CUT ..... Monitor Cut
M.STATE ..... Mechanism State
M.STOP ..... Memory Stop
MEM. ..... Memory
MIX ..... Mixer
MM ..... Monostable Multivibrator
MOD. ..... Modulator
MPX ..... Multiplex

N

NF ..... Negative Feed Back
NORM. ..... Normal
NR ..... Noise Reduction

O

OSC ..... Oscillator
OSD ..... On-Screen Display

P

PB/PLAY ..... Playback
PIF ..... Picture Intermediate Frequency
PLL ..... Phase Locked Loop
POS. ..... Positive
POWER CONT. ..... Power Control
PROG. ..... Programme
PROTECT. ..... Protector
PWM ..... Pulse Width Modulation

R

REC ..... Record
RECT. ..... Rectifier
REF ..... Reference
REG ..... Regulator
REV ..... Reverse
REW ..... Rewind
RF ..... Radio Frequency
RAM ..... Random Access Memory
ROM ..... Read Only Memory

S

S/H ..... Sample and Hold
S.REEL ..... Supply Reel Sensor
S.TRACK. ..... Slow Tracking
S-VHS ..... Super VHS
SAW ..... Sawtooth
SEP. ..... Separator
SIF ..... Sound Intermediate Frequency
SP ..... Standard Play
SRCH ..... Search
SRV ..... Servo
SW 25Hz ..... Head Switching Pulse
SYNC ..... Synchronizing Signal
SYS.CON ..... System Control

T

T/L ..... Tuner/Line
T.BRAKE ..... Take-up Brake
TuP ..... Timer Microprocessor
T.REEL ..... Take-up Reel Sensor
T.RESET ..... Timer Reset
TP ..... Test Point
TRS ..... Transfer
TU-uP ..... Tuning Microprocessor

U

U/D ..... Up/Down
UNI. ..... Unified

V

V-REF ..... Voltage Reference
V.DRV ..... Vertical Drive Pulse
V.DUB ..... Video Dub
VCO ..... Voltage Controlled Oscillator
VHS ..... Video Home System
Vss ..... Voltage Super Source
VOL. ..... Volume
VSS ..... Vertical Sync. Separator
VT ..... Tuning Voltage
VT-U ..... Tuning Voltage-UHF
VT-V ..... Tuning Voltage-VHF

Y

Y/C ..... Luminance/Chrominance

DIGITAL PROCESS CIRCUIT

A

ADC B-Y ..... Analog to Digital Converted B-Y Signal
ADC R-Y ..... Analog to Digital Converted R-Y Signal
ADC Y ..... Analog to Digital Converted Luminance
ADRS ..... Address

C

CAS ..... Column Address Strobe
C.BLANK ..... Chroma Blanking

D

DRAM ..... Dynamic Random Access Memory
DEMPX ..... Demultiplexer
DWC ..... Delayed Write Clock
DT/OE ..... Date Transfer/Output Enable
D.REF 25 ..... Delayed Reference 25Hz
D.SW ..... Delayed Switching 25Hz

I

INC ..... Row Counter Increment

M

MEM ..... Memory
MEM VIDEO ..... Memorized Video
MEM SW ..... Memory Switch
MEM ON ..... Memory ON
MPX ..... Multiplexer
MPX VIDEO ..... Multiplexed Video

O

O/E ..... Odd/Even Field

P

P IN P ..... Picture in Picture
PIX MOVE ..... Picture Move

R

RC ..... Reading Clock
RCC ..... Reading Clock Clear
RCR ..... Row Counter Reset
RAS ..... Row Address Strobe
REF 25 ..... Reference 25Hz from Servo Circuit
REL ..... Refresh Control

S

SC ..... Serial Control

W

WC ..... Write Clock
WCC ..... Write Clock Clear
WE ..... Write Enable
WRITE ENBL ..... Write Enable

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